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Chemical
Marketing
Reporter

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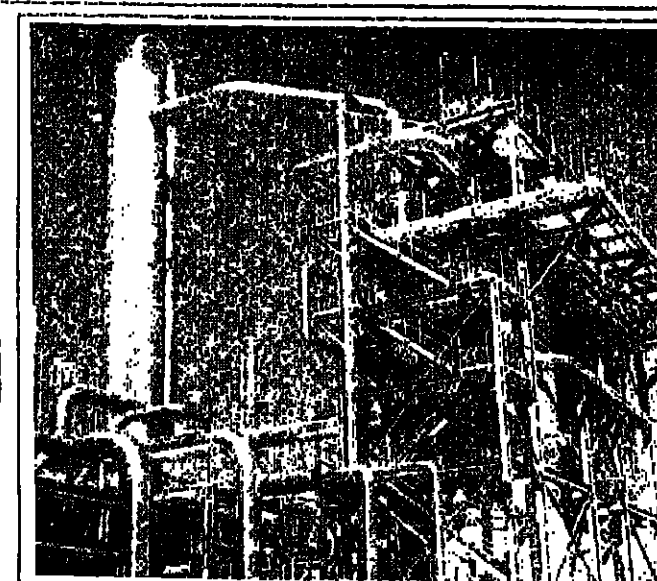
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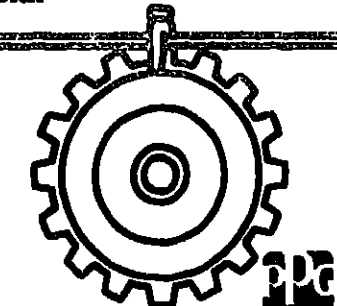
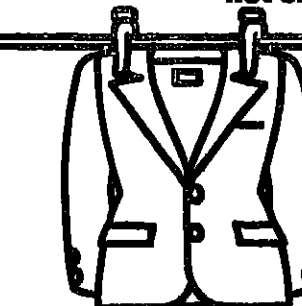
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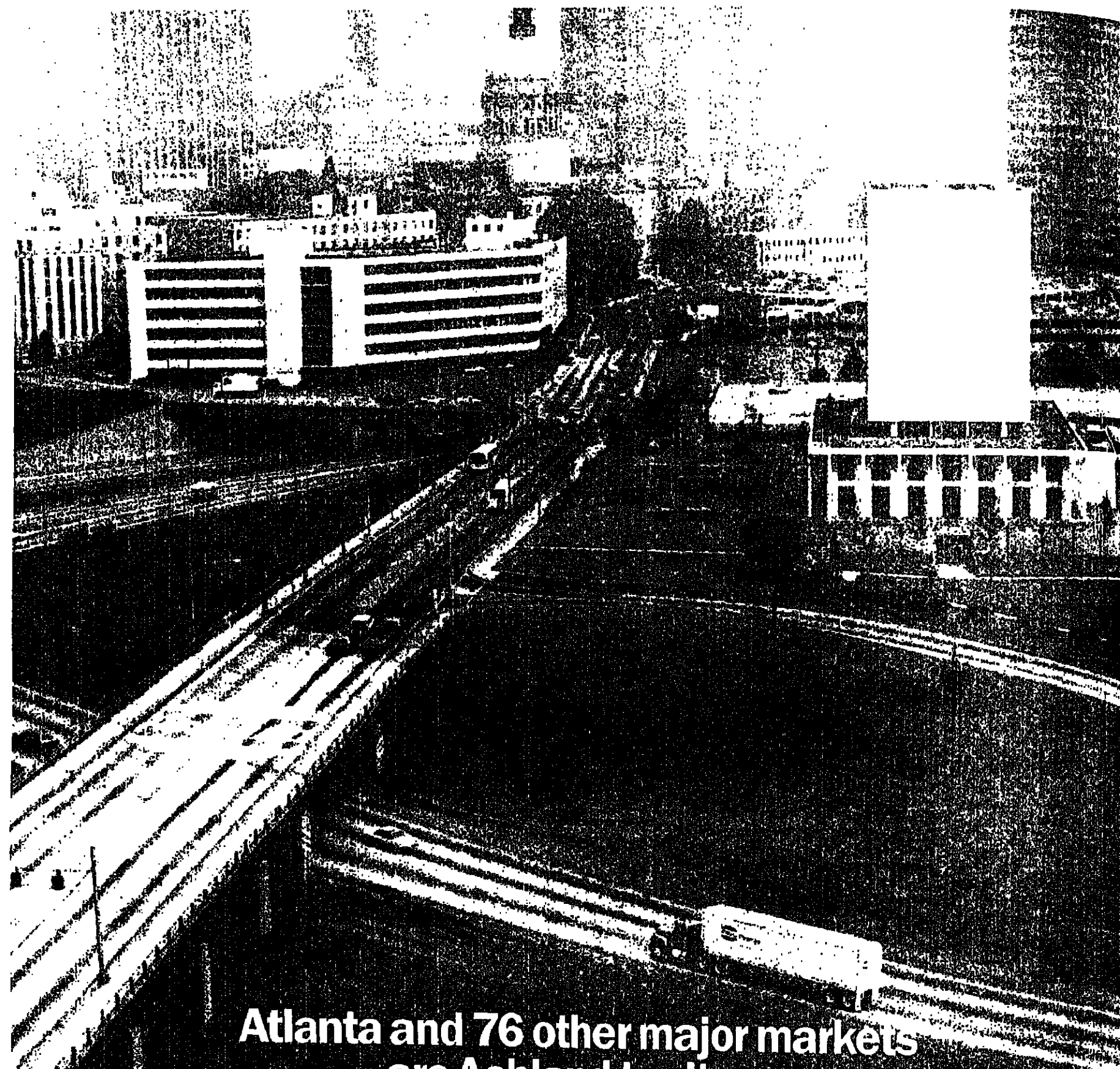
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Methanol Excess is a Price Problem

Methanol supplies continue to far outstrip demand in the US, despite a huge gain in consumption for use in blending methyl tert butyl ether (MTBE). The result has been a continued deterioration in methanol pricing, and a large buildup in inventories, particularly imported material.

Total domestic demand for methanol this year is estimated to reach 1.4 billion gallons, according to several sources. This marks an increase of over 100 million gallons compared to 1985. However, the combination of US production plus imports may come in at over 1.5 billion gallons for 1986, representing a 100 million gallon surge in inventories.

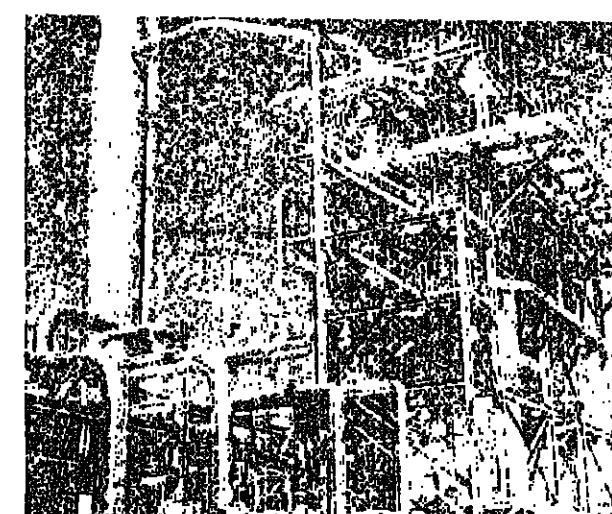
This oversupply, coupled with the sharp decline in crude oil and petrochemical prices this year, has led to a long, steep decline in domestic methanol prices. Starting at close to 40 cents per gallon in January, the

price for methanol sold in barges on the Gulf Coast has now slid to about 26 cents per gallon, down a penny or two from last month. One seller ruefully called methanol, "the sloppiest commodity there is."

US methanol producers have carefully restructured their businesses in the past several years, closing several hundred million gallons of excess capacity. However, falling natural gas prices on the US Gulf Coast made it apparent that US-produced methanol in the past year has become as cost competitive with methanol produced anywhere in the world. Con-

Continued on Page 17

METHANOL UNIT: Falling gas prices induced US producers to increase output, but imports failed to back off and inventories may have risen by as much as 100 million gallons.



Elections' Outcome Shifts Chemical Outlook in Senate

Democratic Senators from the South and Southwest will run many of the committees which handle legislation affecting the chemical and pharmaceutical industries, including Finance, Budget, Commerce, Energy and Small Business, when the new Democratically-controlled chamber convenes in January. The region will lose the chairmanships of the Agriculture and Judiciary panels.

Winning control of the Senate gives Democrats more than the chairmanships of all the standing committees, which write legislation, hold hearings and consider nominations. They will also have a majority of members on each panel and will be able to control up to two-thirds of the staff positions.

In some cases, the transfer of power from the GOP to Democrats will result in a dramatic shift in ideology. For example, conservative business ally Sen. Orrin Hatch (R-Utah) will give up his Labor & Human Resources Committee chairmanship to a Northern liberal — either Sen. Edward Kennedy (D-Mass.) or Sen. Howard Metzenbaum (D-Ohio). The panel determines the initial fate of most legislation sought by drug companies.

Also, Sen. John Danforth (R-Mo.), a strong proponent of product liability reform, will yield the chair of the Commerce Committee to Sen. Ernest Hollings (D-S.C.) — the leading opponent of product liability legislation in the last Congress.

But Sen. Hollings will also be in a position to push for legislation to restrict textile imports, a top priority of the Man-Made Fibers

Producers Association. John Gregg, chairman of the Fiber, Fabric & Apparel Coalition, said the election results will make it easier to pass a textile bill.

White House officials acknowledged that President Reagan's veto of a textile trade bill hurt Republican candidates in the Southeast, such as Sens. James Broyhill (N.C.) and Mack Mattingly (R-Ga.).

Sen. Lloyd Bentsen (D-Tex.) will become chairman of the Finance Committee, which handles taxes and most trade legislation. Sen. Bentsen, a strong advocate for the petrochemical and oil industries, voted for this year's comprehensive tax reform bill, written principally by outgoing chairman Sen. Bob Packwood (R-Ore.). But he indicated last week he wants the committee to reconsider some of the changes.

Sen. Bentsen also said he would give a trade bill top priority and predicted Senate action by Spring. He said he will push for a bill to enable US manufacturers to compete better in international markets, with or without the support of the President.

At the Environment & Public Works Committee, Sen. Robert Stafford (R-Vt.) will give way to Sen. Quentin Burdick (D-N.D.). He is expected to follow many of the policies set by his predecessor and push for legislation to control acid rain, and protect the nation's groundwater from toxic contamination.

The chairmanship of the Agriculture Committee could pose a problem for the Democrats. Sen. Patrick Leahy (D-Vt.), fresh off an election victory, can claim the post and bump Sen. Ed Zorinsky (D-Neb.), who has been the ranking Democrat on the panel.

Biotechnology Program Criticized on Capitol Hill

A congressional committee is questioning the scientific soundness of the Reagan Administration's program for regulating the biotechnology industry.

At issue, according to a report prepared by the House Science & Technology Committee's investigations and oversight subcommittee, is whether releasing living genetically-altered microorganisms into the environment is harmless or potentially hazardous.

President Reagan signed into law in May a package of rules for regulating pesticides and other products made from genetically engineered substances, including drugs and crop plants. One of the rules exempted several classes of genetically altered microbes from review by the Agriculture Department and Environmental Protection Agency before being released into the environment because they were found to be safe.

Dr. David T. Kingsbury, assistant director of the National Science Foundation, said the new program was based on widely accepted scientific theories about the behavior of microorganisms in the environment.

However, a number of ecological scientists attacked the program during congressional

hearings, charging that information on microorganisms and their ability to survive and multiply in various environments is incomplete and the exemptions were therefore unjustified.

"All the facts are not in about these organisms," says Rep. Harold Volkmer (D-Mo.), chairman of the investigations and oversight subcommittee.

He says the panel is particularly concerned about the lack of review for regulator genes that control biological functions, and "opportunistic pathogens."

The new rules say removing regulator genes from one organism and splicing them into another is not risky. But the study cites testimony from environmental scientists and biologists who said shifting regulator genes from one organism to another could produce major changes that are potentially dangerous in certain environments.

Opportunistic pathogens are normally harmless organisms that may pose danger to people, plants and animals that have low resistance. The report said such pathogens should be reviewed because genetically modified versions could become pathogenic under certain environmental conditions.

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NOVEMBER 10, 1986

Hoechst Launches Offer For Celanese

Hoechst AG of West Germany and Celanese Corporation last week cemented their long-standing relationship by signing a merger agreement, under which the American firm will be acquired by Hoechst's US subsidiary, American Hoechst Corporation, for \$2.8 billion.

Hoechst has initiated a cash tender offer for all shares of Celanese common stock at \$245 per share. Celanese has 11.1 million shares outstanding. In addition, Hoechst is also offering \$172.40 per share for all outstanding shares of Celanese convertible preference stock and \$102 per share for the company's 7 percent preferred stock.

Following the merger announcement last Monday (November 3), Celanese stock shot up \$24 per share on the New York Stock Exchange, closing a couple of dollars below the offering price.

Wall Street analysts took a favorable view of the proposed merger, seeing synergism in the firms' respective polyester fiber activities. The merger would make Hoechst the largest US producer of staple and the second largest producer of filament fiber, behind E.I. du Pont de Nemours & Co.

Although Celanese and American Hoechst currently compete in the US polyester fiber market, they do not foresee any antitrust concerns getting in the way of the combination.

Hoechst and Celanese began their relationship 25 years ago with the formation of a joint venture in Germany, Ticona Polymer Works, which makes engineering plastics based on Celanese technology. Hoechst sells the plastics in the German market.

Earlier this year, the two companies began discussions about another engineering resins joint venture, and by Fall, the talks had evolved into a full-fledged merger negotiation.

The merger accord satisfies Hoechst's stated desire to increase its presence in the US, and marks the culmination of Celanese chairman John D. Macomber's drive to increase shareholder value.

Analysts speculate that the timing of the deal was also influenced by such factors as the fall in the value of the dollar, which

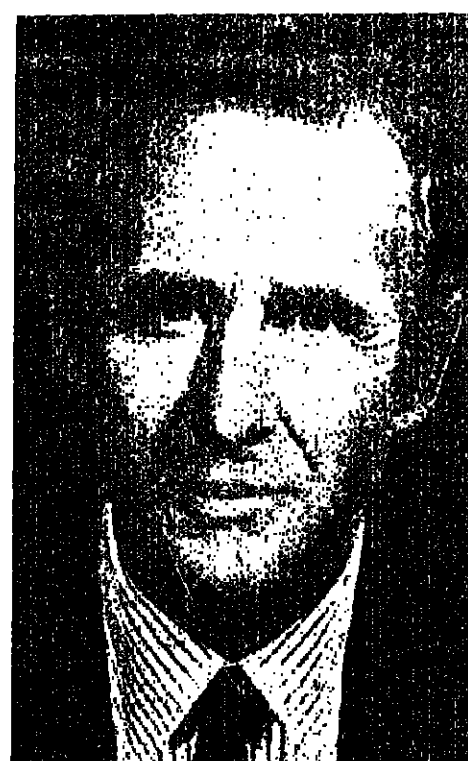
makes American firms a cheaper buy, and changes in the tax code, scheduled to take effect at the beginning of next year.

Mr. Macomber, a management consultant before taking the helm at Celanese, is highly regarded on Wall Street for his restructuring job at the company. Largely defying conventional wisdom in the chemical industry, Mr. Macomber stuck to the company's basic products and initiated a drastic cost-cutting program, making the company a veritable cash machine.

"Macomber has done a remarkable job" at Celanese, says Jay Meltzer, chemical analyst at Goldman Sachs & Co., reflecting a view shared by other industry analysts.

Celanese will continue to operate as a separate entity with essentially the same management and structure intact, according to

Continued on Page 24



John D. Macomber



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Nicholas Pappas

Water Bill Veto By Reagan Laid to Costs

President Reagan, heeding the advice of the White House budget office, Thursday vetoed widely supported legislation to revise and reauthorize the Clean Water Act, saying the proposed \$18 billion extension is too expensive.

In a statement explaining the reasons for his pocket veto, the President said his administration remains committed to the objectives of the 1972 clean water law and will work closely with the next Congress to pass acceptable legislation.

"Unfortunately, this bill so far exceeds acceptable levels of intended budgetary commitments that I must withhold my approval," President Reagan remarked, noting the measure would triple the amount he had requested for the program.

The legislation vetoed last week was passed unanimously by the outgoing Congress and was strongly supported by environmentalists. Chemical Manufacturers Association said the final product was an adequate compromise and urged the President to sign the bill.

Sen. Daniel Moynihan (D-NY), said a president.

Continued on Page 52

Waste Rules To Be Widened By US Agency

Environmental Protection Agency is proposing to regulate "miscellaneous" hazardous waste units not now covered under existing Federal hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA).

The proposal would set new, general permitting standards for many types of units in need of hazardous waste controls which do not fall under existing facility definitions. EPA says the proposal is designed to close the gaps in the current regulatory program.

Under the proposal, the agency would apply a combination of performance standards that would address groundwater and subsurface migration, surface water and air on a case-by-case basis as requests for permits are received.

EPA says this approach would allow the agency to address a full range of environmental issues raised by a particular waste management situation without waiting to establish specific standards for each type of unit.

Canadian Drug Bill

The Canadian Government last week introduced legislation in Parliament to extend patent protection for brand name drugs. Draft legislation circulated before Parliament's summer recess provided up to 10 years of market exclusivity, but the bill introduced last week provides only seven years of protection from generic copies.

Du Pont Grooms Resin For Big Role in Detroit; Breakthrough Claimed

The rapid penetration of automotive markets by plastics which the chemical industry has always hoped for and often predicted could soon become a reality through a new breakthrough by E. I. du Pont de Nemours & Co. that reportedly improves all of the relevant properties of its polyarylate resins and initially lowers the cost by 20 percent, with further cost reductions promised.

The research breakthrough was announced by Du Pont in New York on Election Day last week. While Nicholas Pappas, Du Pont's group vice-president for polymer products, and his associates, laid great stress on the potential in autos, because of the large market potential there, they also said that rapid acceptance was expected in electrical and electronics markets and consumer and recreation outlets.

Dr. Pappas said the new Du Pont process produces a plastic that is super tough, for the impact resistance needed in automobiles, and has high heat resistance.

The new engineering resins, introduced under the trademark "Arylon," also have excellent weathering characteristics, and are easier to process than are other high-performance plastics, including the existing line of polyarylate resins, Dr. Pappas said.

Lawrence H. Gillespie, Jr., director of the department's plastic engineering operations, predicted that as a result of the breakthrough, polyarylate's sales volume could become as large as that of nylon resin, currently the largest of the engineering plastics, with an estimated 35 percent of a world market of 4 billion pounds a year. Engineering resins are growing at about 8 percent yearly, worldwide, Mr. Gillespie said.

For automotive uses, the new polyarylates will be sold under the existing trademark "Bexloy." A variety of "Bexloy" M alloys are now under development for injection molding, blow molding and thermoforming, which will lead to lower production costs for auto makers, Mr. Gillespie said.

"Bexloy" M will be priced competitively with other plastic systems competing in the body part market, but will require only about half the cycling time as thermoset resins, he added.

With the diversity of markets and uses

Continued on Page 15

Merck Seeks Approval

Merck & Co., Inc. plans to file a New Drug Application requesting Food & Drug Administration approval to market lovastatin, a Merck drug discovery for lowering high levels of cholesterol.

"Lovastatin is a promising cholesterol-lowering agent discovered by Merck scientists. In long-term clinical trials, lovastatin continues to show a high degree of safety and more effectiveness than any known drug in reducing the elevated levels of low-density lipoproteins that are correlated with coronary heart disease," said Dr. P. Roy Vagelos, chairman and chief executive officer of the health products company.

Merck announced last week that it had just received FDA approvals to market

"Noroxin," an oral antibacterial for urinary tract infections, and "Vaseretic," a cardiovascular drug that combines the company's antihypertensive "Vasotec" with Merck's long-established diuretic "HydroDiuril."

The company will simultaneously introduce in the United States next week both "Noroxin" and "Pepcid," a recently approved H-2 receptor antagonist for control of duodenal ulcers.

"Vaseretic" will be introduced in the United States in the first quarter of 1987, followed by introductions abroad later that year. The company expects that physicians will often choose this product for patients whose high blood pressure is difficult to control.

Warner-Lambert Reviews Drug Development Efforts

Warner-Lambert Company, in scientific presentations to financial analysts last week, reviewed its progress in developing pharmaceutical compounds in several therapeutic areas, including antibacterials, cardiovascular, anticancer, central nervous system, and allergy and asthma.

The company said its broad-spectrum antibacterial compresin (enoxacin) has been deemed approvable for marketing in West Germany, and that marketing would begin early next year. A new drug application (NDA) was submitted to the Food & Drug Administration (FDA) in October to market enoxacin in the US. Enoxacin also has been deemed approvable for marketing in New Zealand.

Enoxacin is a quinolone antibiotic, one of a promising new class of drugs. In worldwide clinical studies involving 6,500 patients, it has been shown to offer effective bacterial action against a variety of conditions, including infections of the urinary tract, skin and soft tissues, lower and upper respiratory tracts, and genital tract infections.

Enoxacin was licensed by Warner-Lambert from Dainippon of Japan. Several new quinolones are being researched at the Warner-Lambert/Parke-Davis Research Center in Ann Arbor.

In the cardiovascular category, the company noted that its beta-blocker bevantolol has been approved in Denmark for the treatment of hypertension and angina pectoris. An

NDA for hypertension is currently under active review by the FDA.

The company also said that it has developed a combination product of bevantolol with the diuretic hydrochlorothiazide and filed an NDA for the product in 1985.

The fastest-growing segment of the beta-blocker market in many parts of the world is in drugs that are in combination with diuretics. Quinapril, an ace inhibitor cardiovascular drug, is the subject of a worldwide clinical development program for the treatment of hypertension and angina pectoris, the company said. A combination product including hydrochlorothiazide is also in development.

Also in the cardiovascular area, the company said that quinapril and a specific cardiotonic agent, imazodan, are being tested for efficacy in improving cardiac performance in the case of heart failure. Imazodan is a chemically novel, orally effective agent that is able to increase the force of myocardial contraction, with the added benefit of peripheral vasodilatation.

In comparison with other currently available drugs for congestive heart failure, imazodan may possess a greater degree of cardiac safety than digitalis, and is orally effective, in contrast to dobutamine and dopamine, which must be given intravenously, the company says.

In the antiarrhythmic segment of the cardiovascular field, the company discussed pirlmenol, which is currently being developed.

Continued on Page 16

CFC's Cap Now Planned By Officials

Following an earlier policy shift by the US chemical industry, the Reagan Administration plans to propose a global cap and eventual phase-out of emissions of man-made chemicals linked to the world-wide phenomenon of ozone depletion.

An Environmental Protection Agency official says the proposal to freeze production of chlorofluorocarbon and halon gases at or close to current levels will be submitted to other nations to elicit their views before the US makes a formal proposal at a meeting sponsored by the United Nations Environment Program in Geneva, Switzerland, during the first week of December.

A State Department cable to US embassies made available by EPA said that "based on current scientific understanding, considerable risks may exist to humans and the environment from continued or expanded global emissions" of these chemicals.

The cable said the US position also would be to provide adequate time for companies to shift away from the chemicals "to avoid social and economic disruption."

A State Department spokesman says the US will seek incentives designed to narrow CFC emissions, but has not yet determined how much of a cutback is needed because of scientific uncertainty.

CFC production dropped in the late 1970's, but has now started a comeback. The US produces about a third of the gases manufactured in the free world.

CFC's are used primarily as refrigerants for air conditioning systems and refrigerators and in the manufacture of plastic foam used in insulation and packing purposes. In addition, the chemical is still used as spray can propellants in many countries. Halons,

Continued on Page 53

Retail Gas Price Seen Dropping By 6 Percent

Retail natural gas prices for the 1986-87 heating season are expected to be 6 percent below the same period last year, the American Gas Association said last week.

An AGA study, "Estimated Change in Natural Gas Prices During the 1986-87 Winter Season," analyzed the purchased gas adjustment filings of 25 interstate natural gas pipelines accounting for 95 percent of interstate gas purchases. The analysis showed that the gas price decline which started in 1985 is continuing despite an inflation rate 2.4 percent higher this heating season than last.

The average national retail natural gas price is expected to be \$5.28 per MM Btu's this winter, compared to \$5.60 per MM Btu's in the winter of '85-'86, the A.G.A. says.

The analysis shows a complete pass through to the natural gas distributor of the 32 cents per MM Btu's price drop this winter by gas pipelines. This 32 cent decline in the city-gate price passed through to residential gas consumers represents a 6 percent decline in their gas price compared to last winter.

The analysis points out that commercial and industrial customers are having a higher percentage price decline than residential consumers because the actual gas commodity cost is a much higher percentage of their rates and thus declines in gas costs have had a larger impact on retail rates for these service sectors.

The analysis also notes the commercial and industrial customers are benefiting from rate restructuring at the state level.

The analysis states that such restructuring to retain large volume gas users is protecting the residential customer from paying a high proportion of the operating costs of the system.

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News Capsule

Lilly Plans Purchase

Lilly Industrial Coatings Inc. has agreed to purchase 49 percent of the outstanding common stock of American Lacquer and Solvents Company from Frank Esposito, owner of the two firms. Lilly will also hold an option to purchase the remaining 51 percent interest in both firms.

Williams Mulls Restructuring

Williams Companies chairman Joseph H. Williams told security analysts that the company is considering various financial restructuring steps to enhance shareholder value. "It would be premature at this time to outline the specifics," Mr. Williams said, but added that they would likely be implemented before year's end. Some steps have previously been discussed.

IMC Launches Unit

International Minerals & Chemical Corporation has formed a new scientific business unit, the IMCELL Products Division, to produce and market growth factors and related serum replacement products to the cell culture industry. The new division will seek to position itself as a major supplier to the emerging cell culture industry, where products include pharmaceuticals, diagnostics and vaccines.

Nat'l Distillers Buys

National Distillers & Chemical Corporation has completed the purchase of Enron Chemical Company, the petrochemical subsidiary of Enron Corporation. The purchase price was approximately \$570 million in cash and the assumption of approximately \$34 million of industrial revenue bond indebtedness.

Dow Health Study

As part of its health surveillance program, Dow Chemical Company has completed a general study of its Ludington, Mich., plant employees, which found a "significantly lower than average mortality rates from major causes of death. The observed rate for all major causes of death, including all cancers, was 30 percent below the expected level, based on comparisons with two general population groups," Dow said.

Uniroyal Sells Subsidiary

Uniroyal Inc. has sold its Uniroyal Plastics Company Inc. subsidiary to Polycast Technology Corporation for approximately \$110 million. Uniroyal Plastics manufactures high-technology rubber and plastic-based products, including coated fabrics, adhesives, sealants, engineered systems, thermoplastics sheet and composites, specialty foams and flexographic printing plates.

FMC In Accord

FMC Corporation says it has reached agreement with Centocor Inc. to exchange FMC's 50 percent interest in Immunorex Associates, a joint venture of the two companies, for 1.35 million shares of Centocor common stock. The agreement is subject to the approval of the boards of directors of both companies. The accord ends a dispute between the firms over the property rights of Immunorex, which specializes in research and development of monoclonal antibodies and immunoregulation products.



CPC's J.R. Elzner

CPC Buys Back Shares Held By Perelman

From the timing of events, at least, it would seem that all CPC International Inc. had to do was to say it would restructure itself and buy back 10 million of its shares, and it was able to thwart a hostile acquisition by a group led by Ronald O. Perelman.

Mr. Perelman, chairman of Revlon Company, who has purchased several companies and sold off their assets at large profits, sold back about 4 million shares of CPC, amounting to 8.3 percent of its outstanding common shares, a day after CPC had announced its plans for restructuring and buying back shares.

When CPC announced its plans, the company noted that an investor group had accumulated more than 5 percent of its shares.

CPC said that its investment banker, Salomon Brothers Incorporated was developing strategies for restructuring the company so as to maximize values to shareholders.

"This new direction is intended to achieve sharper strategic focus on the company's US and grocery products businesses and to lead to significant reductions in overheads and

Continued on Page 22

Chesebrough Sets \$150 Million In Divestments

As part of its continuing realignment of product lines, Chesebrough-Pond's Inc. is offering to sell selective, non-strategic chemical and related businesses with aggregate annual sales of about \$155 million, according to Ralph E. Ward, chairman and chief executive officer.

The businesses offered for sale comprise Stauffer Seeds, with plants in Lone Tree, Iowa; Hutchinson, Kan.; Danvers, Minn.; Phillips, Neb., and Madison, Wis.; chlor-alkali plants in St. Gabriel, La., and Henderson, Nev.

Also, formulated food system plants in Rochester, Minn., and Clawson, Mich. Shearson Lehman Brothers Inc., New York, is acting as financial advisor for these transactions.

In addition, Chesebrough is offering for sale its fabricated plastics business, with a plant in Anderson, S.C. The sale of this unit will be handled directly by Chesebrough's treasurer's office.

No changes in operations or employment

Continued on Page 32

Union Carbide Attacks Debt Incurred Earlier

Union Carbide Corporation has adopted a plan to redress its balance sheet by retiring or converting much of the huge debt incurred in its successful defense earlier this year against an unsolicited tender offer to acquire the company by GAF Corporation, of Wayne, N.J.

Union Carbide will undertake a major recapitalization plan that will significantly reduce the corporation's debt and interest expense, strengthen its financial condition and increase "its ability to pursue future growth opportunities free of restrictive indenture covenants, without earnings dilution," a company spokesman said.

In the first step, Union Carbide has commenced a tender offer to purchase all of the \$2.5 billion principal amount of securities issued to shareholders pursuant to its January 1986 exchange offer, which was a successful counter-offer to GAF's tender for Union Carbide's common shares. These securities bear an average interest rate of 14.2 percent.

Because of their high interest rates, the securities will be purchased at substantial premiums, which will result in an extraordinary charge to earnings in the current quarter.

First Boston Corporation will act as dealer-manager for the tender offer.

After the tender offer, Union Carbide will repay a substantial portion of the purchase price for the securities with proceeds from the previously announced divestment of the company's agricultural products and electronics component businesses and the sale and leaseback last week of its Danbury, Conn., headquarters, plus the net proceeds of a \$500 million domestic and international public offering of Union Carbide common stock.

Late in the week, Union Carbide announced that the corporation had signed a letter of intent with Related Companies, Incorporated, of New York, for the sale of the Danbury headquarters building and its 650-acre headquarters site, and for the leaseback of the headquarters building. The sale price will be approximately \$345 million.

The transaction is expected to be completed by year-end. A pre-tax gain in excess of \$100 million is expected to be realized over approximately 20 years and is expected to have no material effect on net income in 1988.

In addition, Union Carbide will participate in a limited partnership with Related Companies for the planned future development of

Continued on Page 32

Petro-Lewis Holders Tender

Freeport-McMoRan Incorporated advanced another step in its effort to gain control of Petro-Lewis Corporation when the bulk of Petro-Lewis's outstanding securities were tendered to FPCO, Inc., under FPCO's tender offer. FPCO was formed under the direction of Freeport-McMoRan.

FPCO said last week that it had accepted for payment all the Petro-Lewis debt securities tendered pursuant to its offer, including over 98 percent of the senior unsecured notes, over 90 percent of the senior subordinated notes and over 61 percent of the subordinated notes.

FPCO intends to seek additional Petro-Lewis debt securities on the open market

for cash or in exchange for securities at prices higher than, the same or lower than those in the expired tender offer, and may make such purchases directly or indirectly, through one or more agents, the company said.

If FPCO is unable to acquire the remaining debt on acceptable terms and Petro-Lewis is unable to pay its obligations FPCO will protect its interest as the majority public creditor.

As the holder of substantially all of Petro-Lewis's senior secured and a senior subordinated public debt, FPCO said it would be in a strong position vis-a-vis other debtholders in any bankruptcy proceeding.

Dow's, Monsanto's Shares Are Recommended by Analysts

Stock market analysts in London and New York are issuing a number of positive reports on multinational chemical companies based on the improving supply balance and upward price trends for commodity chemicals. Among the companies getting positive evaluations and purchase recommendations on their shares are Dow Chemical Company, of Midland, Mich., and Monsanto Company of St. Louis, Mo.

At E. F. Hutton & Co., analyst John P. Henry has rated Monsanto Company as a strong "buy" both near-term and longer term in light of encouraging results in both agricultural and medical areas. Mr. Henry's associate, Christopher H. Willis, recommended that clients accumulate the shares of Celanese Corporation, just prior to announcement of the Celanese-Hoechst Corporation merger agreement.

Robert S. Reitzes, chemical analyst at Mahon, Nugent & Co. judges that Dow's shares are attractive on the strong probability that some important recently announced price increases in commodity chemicals will hold.

In London, Howard Costes, analyst at Barclays de Zoete Wedd, likes the current value in the share price of Laporte Industries PLC, one of the big titanium dioxide producers. Currently, Laporte's shares are selling at

12.5 times earnings, a price/earnings ratio that is somewhat lower than the market average, whereas, Mr. Costes states, Laporte should command a premium of 15 to 20 percent over the market average.

Peter Woods and Mark Clark, analysts with Barclays de Zoete Wedd's Health & Household Sector, have issued a buy recommendation for Amersham International PLC. They cite continued strong growth in the Research Division and the success of the company's diagnostics operations in the US. Also the Industrial Division is benefiting from the first contribution of a new US acquisition — Radiation Products.

At Wertheim & Co., Jonathan S. Gelles, said that a recent meeting by Sterling Drug Incorporated confirmed his belief that that company is undergoing a major change that will boost its annual profit growth from the 4-5 percent range of 1980-1985 to at least 13 percent over the next three-year period.

Mr. Gelles cites the projected launch of millirone in late 1988 as a spur to a forecast growth rate of 15 percent year from 1988 onwards.

Robin Hindle Fisher, of Barclays de Zoete Wedd, is advising that company's clients to buy Granyte Surface Coatings PLC, one of the leading producers of wood finishes in the United Kingdom.

The company has been growing rapidly.

Continued on Page 23

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4. Published literature and promotional material which completely ignores the botanical origin, geographical distribution and growing conditions of the acacia crop.
5. Blamed the roller-coaster rides of supply and demand and high prices on Mother Nature instead of using modern science and agribusiness techniques to improve natural conditions and product surety and quality.
6. All used the same gum processing sub-contractors for years.

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5. Organized four international symposia on gum tree development and gum production.
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9. Created a foundation, AIDGUM, for developing gum production and training gum producers.
10. Granted scholarships to more than 20 students or engineers from producing countries to be trained at ICOL and in various labs in biogeography, plant genetics, sylviculture, biological and botanical science.
11. Sponsored research in 5 European universities for gum biochemistry, gum biology, rheology, botanics, metabolism, etc.

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OILS, FATS & WAXES

Soybean Oil Market Weakens As Crush Rate Ups Supply

Strong crush rates through the month of October are providing the market with more soybean oil than it can consume. As a result the prices, which had been moving upward for several weeks, have begun to ease down, as consumer demand for the oil is also backing off.

The soybean crush rate rose every week during the month of October, according to industry figures, reaching a high of 22.3 million bushels for the week ending Oct. 29. This compares to the crush rate one year earlier of 18.9 million bushels for the week ending Oct. 30, 1985.

The present crush rate is being fueled by strong meal demand, sources say, both in the US and abroad. Part of the domestic demand seen now represents an effort to catch up to slow production earlier this year. "Crushers took a lot of downtime this summer," says an industry analyst, "and when they wanted to crush, to build up their stocks, the lateness of the crop kept material from being available."

The heavy crush rate is supplying the oil market with more material than it seems to need. Domestically, consumers are said to be well-covered. "The pipelines have been filled," says a source, "and demand is more than satisfied. For oil, the supply is going up as the demand is coming down."

SOME REFINERIES SLOWED

He goes on to note that some refineries are slowing down, particularly for salad oil. Some sources see consumer interest as at least fair, but not sufficient to absorb all the oil being produced.

What is hurting US oil producers worse than lagging domestic buying is the lack of European demand. "There is no export business for soy oil from the US," says one dealer. He blames this on European rapeseed and soybean oils, as well as on Malaysian palm oil, all of which are at a discount to US soy oil at delivered prices in Europe, he says.

He predicts that some "major oil buying" from a consumer such as India or the Soviet Union would spur the world oil market and provide relief for US soy oil. Although India has recently announced a cutback in the amount of vegetable oil it will import, he says, it is believed India will have a difficult time meeting its demand with domestic oil.

Not all dealers are convinced that soybean oil stocks are building up. "I would not call demand disappointing right now, and we are certainly not drowning in oil," says a dealer. Nevertheless, the crush rate is climbing and, as one dealer says, "We don't see the build-up

in the stock figures yet, but we're seeing it on the market."

VEGETABLE OILS

CASTOR OIL — The price of this oil is quoted at 31c. to 33c. per pound for raw No. 1 oil from Brazil, in tanks. Trading activity is described as quiet at the moment, with consumers unwilling to meet present prices. "It's a stand-off between buyers and sellers, and it's just a matter of who gives in first," says an industry source.

Adding to consumers' reluctance to do business are the plentiful supplies in the market. Brazil is continuing to indicate that its

PRICES TRENDLINES

WEEK ENDING NOV. 7, 1986

CHANGES/UP

Cocunut oil, NY, 1/2c. per lb.
Cottonseed, 41% bulk, Memphis, 56c. per ton
Grease, white, choice, tanks, divd., NY, 1/2c. per lb.
Grease, yellow maximum 10%, 1/2c. per lb.
Soybean, 44% bulk, Decatur, 82c. per ton

CHANGES/DOWN

Palm oil, NY 1/2c. per lb.

OILS, FATS INDEX

The Oils, Fats & Waxes index reflects the prices of 11 representative materials in this sector and the quantity of each produced in 1985.

Nov. 7, 1986	82.74
Oct. 31, 1986	81.94
Oct. 10, 1986	78.39
Nov. 8, 1985	90.60

Chemical Prices Start on Page 36

prices will come up, sources say. But, as one dealer says, "Stocks are so ample here that it's hard to justify raising prices." Brazil's short crop situation, their reason for wanting to raise pricing, is being eased by their import of castor beans from China and Paraguay, a source says.

COCONUT OIL — The coconut oil market has been very erratic, with prices rising and falling from day to day. Traders attribute this to the activity of origin sellers, who have been entering the market on an irregular basis to repurchase contracts. Most of the activity has been among dealers, with consumers staying away from these high prices.

COTTONSEED OIL — Following a period of strong buying activity, demand for cottonseed oil has begun to fall off. High prices for coconut and palm oils spurred buying interest in cottonseed oil, particularly for forward positions, according to an industry source. Last week, however, as prices of those oils started to weaken, so did the interest in cottonseed oil.

Nevertheless, upward pressure on the price is expected to remain due to the reduced size of this year's crop. Also, stiff competition from dairy farmers, looking to buy cottonseed as feed for their herds, make it unlikely that crushers will be able to buy very much seed this year, thereby keeping oil stocks low. Aggravating the short supply situation is the fact that oil yields from some of the crop have been low, particularly from seed planted late in the season, in time to be hurt by dry weather.

LINSEED OIL — Producers are expecting a more stable linseed oil market this year due to farmers' reluctance to flood the market with seed. "The farmers put away more flaxseed than we thought they would," says an industry source, who cites dissatisfied action with current price levels as the reason for withholding some of the material. Flax is said to be plentiful, but by introducing it

FRIDAY SPOT PRICES MARKET CLOSE NOV. 7, 1986

CRUDE VEGETABLE OILS
Cocunut oil, NY, 1/2c. per lb. 20%
Cocunut oil, Pacific 20%
Corn oil, Midwest 20%
Cottonseed oil, Valley 17
Lard oil, Minneapolis 17
Palm oil, NY 25
Peanut oil, Southeast (presifted) 30%
Soybean oil, Decatur 15

REF. VEGETABLE OILS
Cocunut oil, NY, NY 28
Corn, jumbo tanks 28%
Cottonseed oil, jumbo tanks, NY 28%
Peanut oil, jumbo tanks, NY 38%
Soybean oil, NY 1938

OILMEALS
Cottonseed, 14% bulk, Memphis 1155
Lard, extracted, 24% bulk, Fargo 1105
Peanut, 50% bulk, SE, Alabama 1155
Soybean, urea, 44% bulk, Decatur 1155

FATS & GREASES
Grease, white, choice, tanks, divd., NY 10%
Lard, heavy, bulk tanks, divd., Chicago 15
Yellow, heavy, bulk tanks, divd., NY 12%
Yellow, feedble, bulk, tanks, divd., NY 12

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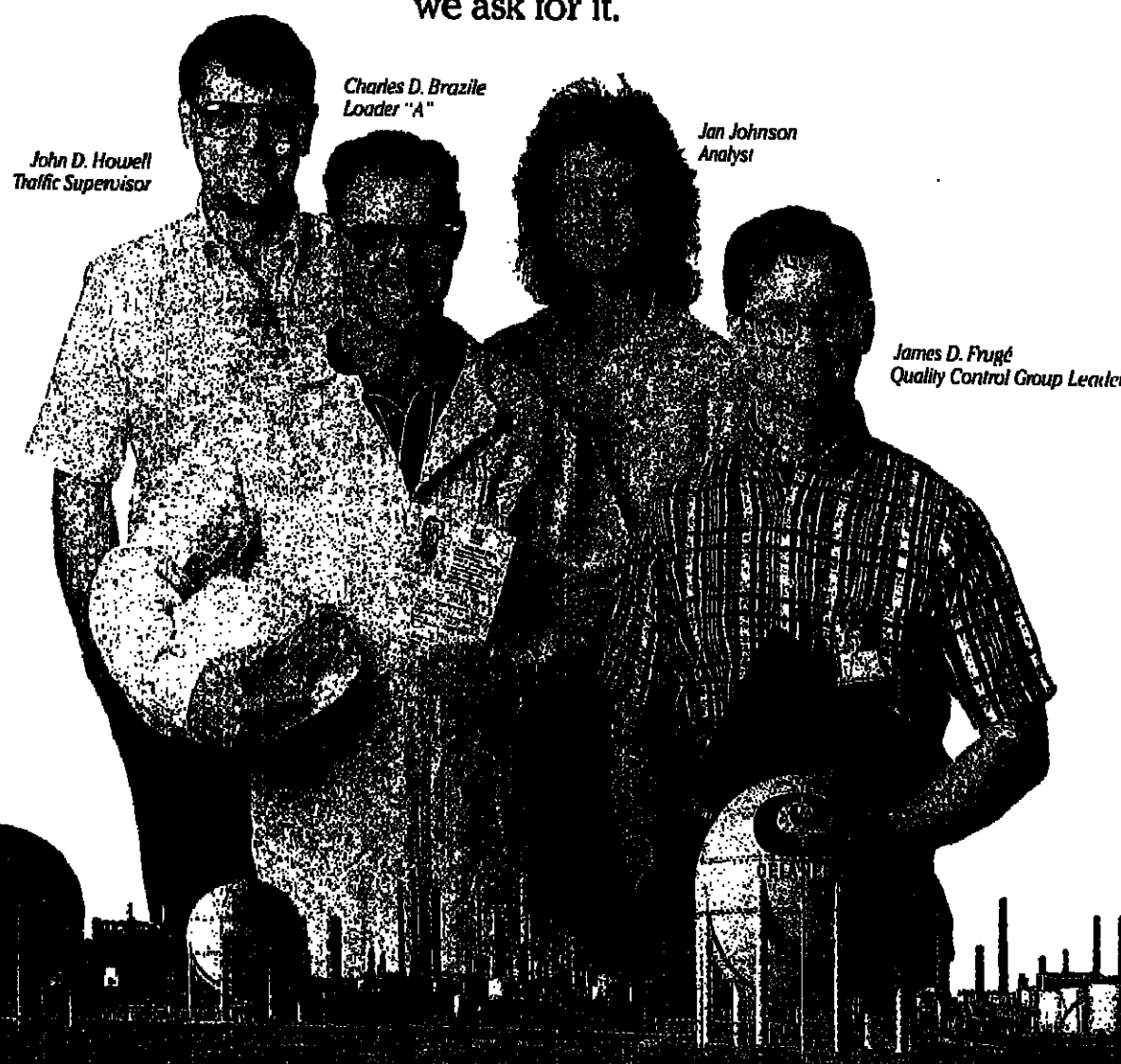
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OILS, FATS & WAXES

slowly the industry should see steadier pricing.

Linseed oil is said to be plentiful now that the harvest has been completed. Buying is strong, particularly from the paint industry, says a source. It is expected that demand from this quarter will begin to slack off in the next few weeks, as the paint industry slows down for winter.

OLIVE OIL — The price of this oil is quoted at \$8.00 per gallon for edible Spanish material in drums, and Italian B-type is quoted at \$5.40 to \$5.50 per gallon. Buying is described as very light right now, as ample inventories are allowing customers to wait for lower prices, with the new Spanish crop due for harvest in a month or so. One dealer speculates that buyers are going increasingly to the practice of blending olive oil with less expensive oils such as soybean or cotton-

seed, for re-sale as "blended" or "10 percent olive oil."

PALM OIL — The price of palm oil, strong for the past several weeks, has started to ease down. The reason cited by most dealers and brokers is the fact that India has back several thousand tons of palm oil, after having bought heavily in recent weeks. The move on India's part comes as part of an announced effort to boost sales of their domestic oils.

Seeing the "biggest buyer making a bullish move," as one source says, led players in the market to believe that prices would not fall. "With India backing out of the market, I don't know where else Malaysia will go for oil," says a source, who notes that concern interest in general has been low, since prices became too high to be competitive with other oils.

FATS & GREASES

TALLOW — Buyers in the tallow market are having a difficult time finding material being offered, sources say. The reason is that producers are holding back, waiting for a strengthening in price, according to a trading source. At the moment, prices are steady and are expected to come up on higher grades. Export interest at the Gulf is described as good, aided by an Egyptian purchase of 10,000 tons of tallow last week.

**Glycerine Marketer
Named by Lever Bros.**

Unichema Chemicals Inc., Upper Saddle River, N.J., announced last week that beginning January 1, it will assume marketing responsibilities for all glycerine produced by the Lever Brothers Co.

Earlier this year, Lever Brothers opened a new plant facility for the production of purity glycerine. The plant is designed to refine crude glycerine from both soap and fatty acid production. Dedicated storage facilities and rail cars will be maintained for national distribution.

Unichema Chemicals Inc. is the marketing affiliate of a group of oleochemical companies operating worldwide under the business name Unichema International. Together, these companies annually produce more than 1 billion pounds of oleochemicals and catalysts.

**Biotech Center
Slated by US, State**

University and government officials broke ground for the Center for Advanced Research in Biotechnology (CARB) at the Shady Grove Life Sciences Center, Rockville, Md.

Established by the University of Maryland, the Commerce Department's National Bureau of Standards, and Montgomery County, Md., CARB is a joint venture between the university and the federal state and local governments. Biotechnology applications are expected to join the CARB's research in areas of macromolecular synthesis and modeling.

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AROMATIC ORGANICS

**Coaltar Pitch Makers Say
Market May Have Bottomed**

Coaltar pitch producers say that import pressure, sluggish demand from the aluminum industry, and a relatively tight raw material picture have been making matters difficult for the industry this year. However, they say the market does appear to have stabilized in recent months.

In July, producers moved list prices down from \$10 to \$25 per ton to a level of \$250 to \$255 per ton for liquid material, and \$280 to \$285 per ton for solid material. Since then, list pricing has been stable, and selling prices, though possibly a bit on the soft side, have held fairly steady in most cases, producers say.

It is noted that import pressure is the most frequent contributor to significant price discounting. "Where imports are met, there is some decline" in pricing, says a producer, "but the basic price structure has been the same" since around mid-year. "Things are stable on the low side," concurs another producer.

Producers observe that price reductions in July were related to lower costs for crude tar. However, crude tar availability in the US is said to have tightened up noticeably over the second half of the year as a result of USX Corporation's steel strike. If the strike continues into next year, one coaltar producer says, crude tar pricing could be pressured upward.

IMPORT PRESSURE WORSENS

The pressure exerted on coaltar pitch pricing by imports has worsened this year, producers note. According to one producer, imports through the first eight months of the year accounted for 23.0 percent of the market, up from levels of 18.4 percent in 1985 and 15.7 percent in 1984.

The imports come primarily from Japan, China, Korea, Germany, and other European producers. Japan's penetration of the US market is said to have grown most notably, from 3.1 percent last year to 6.0 percent this year. The Chinese imports, handled by a US producer, reportedly are not as disruptive as the others.

Producers say their Northwest market has been particularly hard hit by imports. Despite a strengthening during the past several months of the values of Far Eastern and European currencies against the US dollar, overseas suppliers continue to sell aggressively here, some actually lowering their prices in dollar terms, producers say.

Coaltar pitch demand from the aluminum industry, the major end market, has reportedly stabilized, as the industry is "in a recovery mode," says a coaltar producer. "The aluminum market has pretty well bottomed out," says another producer, who notes that the decline, going back to mid-1984, was a long one. "I think we've seen the last of the

plant closures" in the aluminum industry, he says.

Coaltar pitch producers say it is important for them that the aluminum industry experience a healthy recovery because coaltar pitch's coproducts, most significantly cresosote, are faring poorly. Cresosote demand has suffered from cutbacks in railroad

PRICES TRENDLINES

WEEK ENDING NOV. 7, 1986

CHANGES/UP

None

CHANGES/DOWN

None

AROMATICS INDEX

The Aromatic Organics Index reflects the prices of 14 representative materials in this sector and the quantity of each produced in 1985.

Nov. 7, 1986	167.84
Oct. 31, 1986	167.84
Oct. 10, 1986	167.84
Nov. 8, 1985	167.84

Chemical Prices Start on Page 30

maintenance work, the weakening of the Gulf region's economy, and heavy imports (CMR, 8/4/86, pg. 13).

BTX — Spot benzene is quoted between 85c. and 85½c. per gallon, relatively unchanged from the previous week. Contract pricing is between 87c. and 90c. per gallon.

A trader says "there are not a whole lot of barrels out there, but not a big demand for benzene, either." A considerable amount of activity was observed prior to November 1 contract adjustments. There typically is a lull in activity during the first part of the month following a price move, notes an industry source.

The spot toluene market is quoted at 65c. per gallon, equal to the low end of the 65c. to 67c. per gallon range of the previous week.

Xylene spot pricing is holding fairly steady at a 79c. to 80c. per gallon range after firming up the previous week. Demand has slackened off a bit recently due to weakness in the paraxylene market, comments a trader.

Uncertainty over the crude oil picture is said to be prevalent in the market. "No one knows what the new Saudi oil minister will do," says one source; many market players would like to see some direction in the market before making strategic decisions, he adds.

Domestically, the January 1 effective date for the new Superfund bill has the potential to play a role in the market during the coming

AROMATIC ORGANIC EXPORTS: SEPTEMBER

BUREAU OF CENSUS FIGURES IN POUNDS ON THE KEY AROMATICS.

	SEPTEMBER		AUGUST	
	QUANTITY	\$ VALUE	QUANTITY	\$ VALUE
Alylbenzene, higher	3,681,585	1,386,484	1,023,125	1,616,329
Benzene, pure	342,592	532,589	1,294,371	1,234,853
Biphenyl A	5,942,442	3,618,494	8,386,085	4,251,442
Coaltar pitch of	43,981,987	5,974,382	6,750,080	700,370
Cresylic Acid	307,857	312,251	378,679	1,301,771
Cumene	15,711,488	2,126,906	44,076,727	5,360,197
Cyclohexane	9,121,805	1,780,097	16,177,862	1,987,673
Dichlorobenzene	1,730,788	616,534	3,006,272	1,862,564
Dibutylterephthalate	18,126,300	2,941,900	2,217,581	888,544
Dodecylbenzene	14,030,027	4,127,395	26,505,124	5,074,639
Ethylbenzene	27,380	28,596	1,977,531	881,898
Isophthalic acid	891,836	218,586	409,204	178,015
Maleic anhydride	287,720	127,577	434,109	181,455
Naphthalene, all grades	77,545	180,383	77,770	111,978
Phenol	21,487,624	3,025,535	16,965,189	4,680,891
Phthalic anhydride	5,058,589	1,208,082	5,184,402	594,282
Styrene monomer	90,707,777	16,944,248	108,689,858	18,853,988
Toluene, pure	2,210,085	2,446,426	5,116,183	5,642,772
Toluene diisocyanates	13,160,362	10,370,534	10,717,585	5,345,531
Xylene	2,091,376	1,991,291	1,400,023	1,346,930
Xylene, pure	8,735,378	11,514,288	16,393,498	22,147,824
Xylene, mixed	3,285,218	3,061,008	2,500,099	2,284,391

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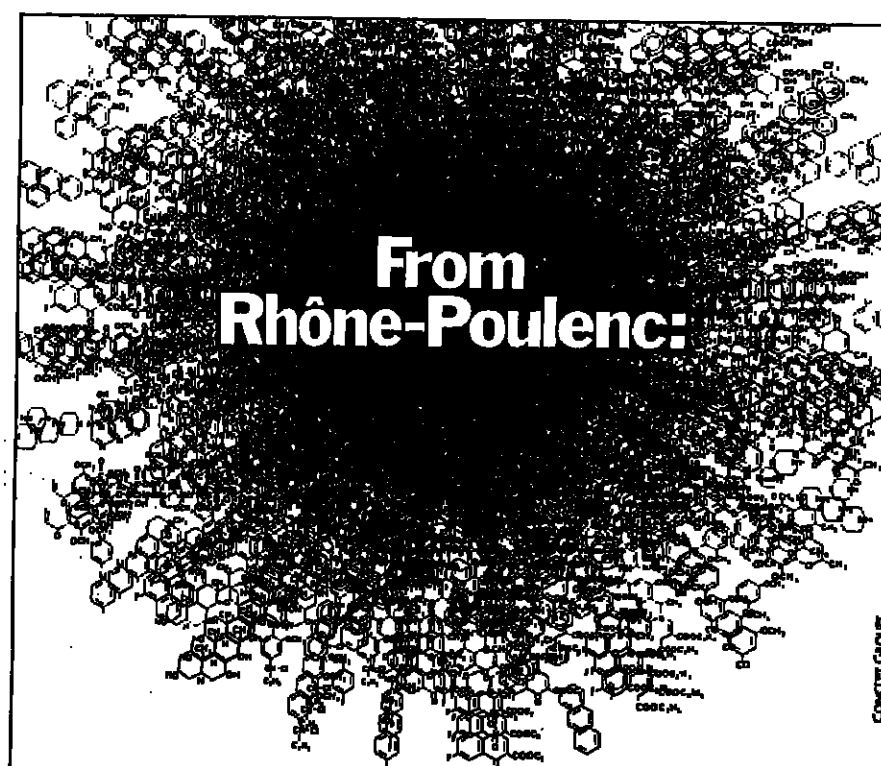
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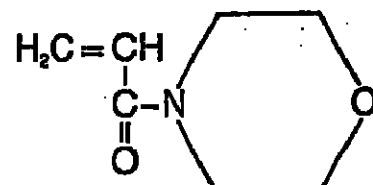
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AROMATICS

weeks. An approximately 1.8¢ per gallon tax on basic aromatics, to be paid by the ultimate consumer, could result in some stocking up on material prior to the effective date, sources note.

However, it is said that year-end state taxes on inventories could counter the incentive for consumers to stock up. One benzene buyer estimates that taxes will take away about two-thirds of the savings, rendering a stocking up plan impractical unless the material can be used promptly. Another source observes that, because inventory taxes are based on value rather than volume, low taxes because of low BTX values this year are likely to encourage high inventory levels regardless of the superfund bill.

MORPHOLINE — Producers say that the market's growth rate is between zero and one percent this year, as both main outlets, tire production and water treatment, are mature.

Producers see little reason for trends in the tire industry over the past few years to reverse themselves. These include greater use of higher mileage tires, smaller tires, imported tires, and imported cars with tires on them.

In the water treatment area, it is pointed out that there has been a consolidation movement that has resulted in a temporary slippage in volume.

Pricing is quoted at 94¢ per pound in bulk, less a 6¢ per pound temporary voluntary allowance. While it is acknowledged that some discounting exists off this level, it is said to have been fairly stable over the past several months.

TDI — Olin Corporation says it is increasing selling price levels on toluene diisocyanate by 8¢ per pound, effective December 1. New selling prices are not to exceed current list pricing which remains at \$1.01 per pound in jumbo tankcars, f.o.b. shipping point, minimum freight prepaid and allowed.

TOLUENE SULFONYL CHLORIDE — Biddle Sawyer Corporation says it has raised the price of its p-toluenesulfonyl chloride, which the company imports from Japan.

The price moves up 47¢ per pound to \$1.65 per pound for direct shipment from the previous list level of \$1.18 per pound which was established earlier this year. The effective date of the change is November 1. The new price for material from out of warehouse is \$1.70 per pound.

Biddle Sawyer attributes the price increase to higher Japanese and European currency values against the US dollar, and to lower production levels. P-toluenesulfonyl chloride is a byproduct of saccharine production, which has been in decline.

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Du Pont Grooms

Continued from Page 7

envisioned for the newly modified resins, Du Pont expects that it will be doing a lot of alloying, blending and reinforcing to tailor them to particular uses and needs, Mr. Gillespie said.

Dr. Pappas said that the attractive price and good performance characteristics will generate sales of about \$250 million for the resins worldwide within ten years. In addition to auto body parts, potentially large markets include printed circuit boards, microwave ovens and sports equipment, Dr. Pappas said.

A Du Pont plant at Chattanooga, Tenn., which previously produced polyester resins for fibers, has now been converted to a 15-million-pound-a-year development facility for polyarylates. This one plant is larger than all installed capacity of competitors, Dr. Pappas claims.

World-scale manufacturing operations, using existing facilities and Du Pont's proprietary low-cost polyarylates process, should come on stream before 1990, the Du Pont executive said.

When world-scale facilities come on stream, Du Pont expects to be able to lower the price to a level that will be competitive with prices of premium grades of polycarbonates, he said.

Pfizer Picks Ashland As Its Distributor

The Chemical Division of Pfizer Inc. has appointed Ashland Chemical Company as its national distributor of food and beverage ingredients and specialty chemicals, supplementing Pfizer's own direct sales and distribution programs.

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Warner-Lambert

Continued from Page 7

oped in clinical studies for three indications: symptomatic premature ventricular contractions, ventricular tachycardia, and postinfarction arrhythmias. Results to date indicate that "Pirmenol" is an effective anti-arrhythmic drug with an excellent safety profile, the company says.

The company said that it is continuing its research program in the area of coronary artery disease, with principal concentration on the lipid-regulating therapies. The company's lead compound in this area, "Lopid" (gemfibrozil), is currently marketed in 36 countries, including the US, where it is the market leader in its category.

The company also said that trimetrexate has potential use in the treatment of opportunistic infections such as toxoplasmosis and pneumocystis carinii pneumonia. Patients with AIDS are particularly susceptible to such opportunistic infections. Early experimental studies in AIDS patients at the National Institutes of Health and the National Cancer Institute indicate a 70 percent success rate with patients suffering from pneumocystis carinii when treated with trimetrexate in combination with the commercially available folate substitute leucovorin.

The company said it is continuing to conduct clinical studies to extend its gemfibrozil franchise beyond patent expiration in 1989. "Lopid" is also the subject of a continuing study in Finland.

In the field of cancer chemotherapy, the

company said it has a number of compounds in various stages of clinical investigation worldwide. One of these compounds, irinotecan, has shown efficacy in phase II multicenter clinical trials against non-small cell lung cancer, which accounts for 75 percent of total lung cancer cases. It also has shown early efficacy against other solid tumors.

US-Canada Trade

Continued from Page 4

sions to both the US and Canada; the elimination of non-tariff barriers, such as inadequate protection of intellectual property; and the establishment of a binding dispute settlement mechanism.

In addition, Mr. Foveaux says US import remedy laws and procedures should not be suspended under any agreement with Canada.

Exports to Canada account for about 10 percent of the US chemical industry's total sales, and are valued at \$22 billion annually. "Although it's one of the few industries providing a trade surplus to the nation, the all growing trade deficit, that surplus is decreasing annually," Mr. Foveaux told Congress last Summer.

The Commerce Department estimates the chemical trade surplus will diminish this year. US chemical trade with Canada leads all other countries.

The talks between the North American neighbors began a year ago. Major sticking points include such issues as how to treat the flow of pharmaceuticals, lumber and other goods.

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ALIPHATIC ORGANICS

Methanol Excess

Continued from Page 3

quently, Du Pont, in partnership with Phillips, reopened its 250-million gallon plant in Beaumont in the Spring. This new working capacity will boost US methanol production to 1.13 billion gallons this year, according to one seller, up from just over 900,000 gallons in 1985.

At the same time, imports continue to flow into the country. Imports topped 350 million gallons in 1985, and are projected to climb to just under 390 million gallons this year. One observer says this imported material is making up the bulk of the inventory overhang.

This supply surge is coming at a time of outstanding growth for MTBE. Sources queried estimate that between 200 million gallons and 250 million gallons of methanol will be consumed in producing MTBE this year, up from under 100 million gallons last year. And the pace of growth is not expected to slacken. For next year, estimates for methanol consumption in MTBE production range from 280 million gallons to 350 million gallons.

This growth, however, has been partly offset by reduced use of methanol fuel blends this year. The revocation of the Petrocoast waiver last Spring, coupled with Arco's decision to cease marketing "Oxinol" in April has cut into methanol consumption. James Crocco, of Houston-based Crocco Associates, projects that methanol use in fuel blends will fall from 70 million gallons last year to 23 million gallons in 1986. He projects the total will further decline to 17 million gallons next year, unless the recent removal of restrictions on the "Du Pont waiver" by Environmental Protection Agency spurs additional use.

INDUSTRY REACTION MIXED

Industry reaction to the re-introduction of the Du Pont waiver was mixed, however. Most sources said the EPA decision would not have a significant near term impact on methanol sales. The waiver allows a gasoline mixture containing 5 percent methanol and 2.5 percent co-solvent alcohols (mainly ethanol), provided the blender adheres to an evaporative index designed to limit increases in fuel volatility.

For years, the use of methanol in fuel blends has come under sharp attack from some auto makers and oil companies because of its corrosiveness. Sources agree that convincing consumers that methanol is a safe, effective fuel component is critical to the alcohol's success as an octane ingredient.

Another key to methanol's future as a fuel ingredient is the long-term octane outlook. Several sources note that gasoline blenders' lead credits are running low, and the price for octane components such as toluene and

MTBE, are poised to increase sharply. Several sources indicated that, should supplies for these octane components get much tighter, independent refiners and blenders, and perhaps some of the major refiners, will have to turn to oxygenates as sources of octane.

Despite a looming octane shortage, most analysts say a push towards blending methanol into fuel will be slow in coming. "Methanol still carries a little stigma, and not many (gasoline makers) are eager to use

PRICES TRENDLINES

WEEK ENDING NOV. 7, 1986

CHANGES/UP

None

CHANGES/DOWN

None

ALIPHATICS INDEX

The Aliphatic Organics index reflects the prices of 20 representative materials in this sector and the quantity of each produced in 1985.

Nov. 7, 1986 222.80
Oct. 31, 1986 222.80
Oct. 10, 1986 222.80
Nov. 8, 1985 222.80

Chemical Prices Start on Page 38

it," one observer states. One of the keys to success, Mr. Crocco, says, is changing the perception of methanol as a gasoline extender to that of an octane enhancer.

In addition to the psychological obstacles, methanol marketers must overcome several logistical hurdles to putting methanol into fuel. Distribution is one factor. Methanol cannot be shipped through pipelines, so sources see its markets limited to coastal areas where it can be moved in bulk on barges, from the plants and the landing points of the imports. In addition, blenders' tanks must be carefully dried out, the butane removed, and the vapor pressures changed.

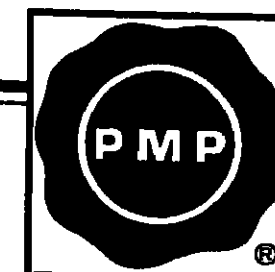
Another problem with the Du Pont waiver, sources note, is monitoring the fuel blends to make sure small blenders don't pump in too much low-cost methanol. Mr. Crocco says there is nobody to police the waiver, and there are people "who will misuse and abuse it." A methanol seller who remembers the abuses taken in the past says "the people who got us in trouble the first time will come back," blending fuels with illegally high methanol contents.

Ironically, Du Pont says it won't pursue the fuel methanol business, and Arco appears to

ALIPHATIC ORGANIC EXPORTS: SEPTEMBER

BUREAU OF CENSUS FIGURES IN POUNDS ON THE KEY ALIPHATICS

	QUANTITY	VALUE	QUANTITY	VALUE
	SEPTEMBER	AUGUST		
Acetic Acid	12,884,885	1,288,077	27,501,530	2,844,858
Acetone	1,592,429	885,881	4,082,734	1,008,828
Acrylonitrile	7,730,461	17,982,481	72,889,325	17,185,648
Adipic Acid	8,218,358	3,538,981	4,797,810	2,292,302
Butadiene	13,060,939	2,580,179	7,328,167	1,090,914
Butanol	11,125,548	2,234,188	12,752,313	2,881,302
Butyl Acetate	4,789,951	1,174,910	6,073,316	1,628,853
Caproic Acid	3,390,135	2,065,848	3,510,611	1,852,090
Chlorinated Hydrocarbons	19,384,418	2,642,533	6,689,243	1,200,187
Ethanolamine	16,864,732	4,883,247	19,481,542	5,773,419
Ethyl Acrylate	5,682,048	1,288,544	6,821,722	2,385,118
Ethyl Alcohol	68,223	185,013	63,001	136,248
Ethylene Dichloride	2,255,202	205,455	24,380,182	2,128,094
Ethylene Glycol	45,200,357	6,892,893	31,285,146	5,100,114
Formaldehyde	1,248,085	325,455	1,517,238	188,834
Glycerine (Crude)	503,971	822,880	181,871	78,874
Glycerine (Refined)	1,134,289	1,185,888	1,286,313	1,007,938
Hexane	4,244,303	2,520,810	4,831,801	3,876,417
Methyl Ethyl Ketone	4,476,083	995,148	1,595,942	355,389
Methyl Methacrylate	3,438,978	1,669,384	3,582,428	1,970,850
Methylene Chloride	5,421,861	2,171,839	6,897,716	3,900,521
Perfluoroethylene	10,372,033	1,724,785	5,048,420	885,387
Polyethylene Glycol	1,810,883	240,385	5,728,900	1,247,405
Polypropylene Glycol	777,031	354,389	1,358,192	322,093
Propyl Alcohol	13,378,009	7,353,384	15,778,587	5,805,248
Propylene Glycol	20,872,821	3,334,597	21,858,806	3,897,120
Propylene Oxide	6,188,086	1,878,109	7,992,888	2,029,682
Tetrahydrofuran	22,943,887	9,000,088	26,185,312	8,888,218
Vinyl Acetate	67,162,843	1,387,244	8,728,111	830,880
Vinyl Chloride	81,182,867	1,387,244	8,728,111	830,880
Vinyl Chloride	81,182,867	1,387,244	8,728,111	830,880



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ALIPHATICS

have given up on "Oxinal" for the time being. Apparently, blending methanol into motor fuel won't be attempted on a large scale, even considering the growing need for octane, at least through 1987, sources indicate.

Meanwhile, producers must push for better methanol margins. While supply currently outstrips demand, one producer says things have happened or will happen to improve the supply-demand balance in 1987. For one thing, he estimates that methanol consumption in MTBE will grow by another 100-million gallons next year. In addition, Starling Chemical says it will shut its 100-million gallon methanol plant in Texas City, Tex. early next year. The producer also says USI, who purchased Du Pont's Deer Park

plant, is unlikely to re-open the facility before mid-1987. The forced shutdown of a methanol plant in Malaysia will help reduce the import glut, and lower cost natural gas has helped push US methanol exports to over 230 million gallons through August, three times higher than last year.

ETHYLENE — Producers say the industry's October 2c per pound price initiative was partially successful, earning them between 12c and 14c. per pound. Prices are now quoted between 14c. and 15c. per pound, with 14 1/2c. being the most common figure. Contracts will be up for negotiation at the end of November and December, though there is doubt if producers will gain significantly more until the end of the year.

Monthly contract negotiation seems to have evolved during the second half of the year. One producer explains that traditionally prices were set quarterly, but were renegotiated downward after that, the quarterly price acting only as a price ceiling.

Now, he says, with sellers in a more advantageous position, buyers have conceded to allow the monthly negotiation to swing in either direction, depending on market conditions. One producer believes September marked this year's first full-fledged quarterly negotiation. "Quarterly pricing is a volatile feedstock market is not easy to manage," one marketer says.

The coming months look to be seller dominated. Recently published NPRA figures for third quarter production indicate an industry operating rate in the high-90's. One producer says the industry's current 1.2 billion pound inventory represents only a 13 day supply. Consequently, inventory building is likely to be the trend for the next three to six months in preparation for turnarounds in the second quarter of next year.

PERCHLOROETHYLENE — Support is gathering behind Dow Chemical's 2c-per-pound price initiative (CMR, 11/3/86, pg. 12) aimed at December 1.

Occidental Chemical says it is increasing off-schedule perchloroethylene prices by 2c per pound, effective December 5. Vulcan Materials has indicated it will support the move, although it has not made an official announcement.

One source notes that pure has traditionally been priced in the same range as trichloroethylene, as production costs are about the same. Currently, however, trichloroethylene prices are around 22c per pound, f.o.b. tanks, while pure is closer to 16c or 17c. per pound, he says.

Producers say that DuPont's decision to purchase rather than produce chlorine solvents has not tightened the market considerably, since the company contracted for its material beforehand. Producer operating rates are said to be somewhat higher, however, and the DuPont closure should lend some support to the price move.

Also supporting the increase is the effect of the dollar's weakening on import material prices. While producers disagree on whether import volume has been affected, all feel there is pressure on importers to increase prices likewise.

Meanwhile, chlorinated solvents prices note that an October 1 price increase of 2c per pound on methylene chloride seems to be holding successfully.

IMC Completes Sale Of Industrial Unit

International Minerals & Chemical Corporation has completed the sale of substantially all of the company's industrial production assets to Applied Industrial Materials Corporation headed by president and chief executive officer, Charles P. Gallagher and by New York City Investment Firm of Peck & Greer.

Mr. Gallagher was formerly president and chief executive officer of Susquehanna Corporation.

Terms of the sale, originally announced last July, were not disclosed.

Included in the transaction are IMC's iron mines, plants and organizations involved in the production and marketing of iron products, ferroalloys and metals, including minerals and quartz products.

George D. Kennedy, IMC chairman and chief executive officer, says "The divestiture of the industrial production business is a key step in IMC's restructuring effort."

Vinyl Chloride

Continued from Page 5

radioactive air pollutants, and also conflicts with past decisions of the appeals court.

He said NRDC will probably ask the full 11-member appeals court to review the decision.

When the 1984 Supreme Court ruling "is taken to this extreme, it's difficult to think of what Congress could say to eliminate ambiguity," Mr. Doniger remarked. "It's hard to imagine a statute that is clearer than the Clean Air Act when it says health is the only factor to be considered."

EPA says the 1978 vinyl chloride regulations would be easier to enforce than the current law and would therefore be more protective of public health.

Under current rules, vinyl chloride discharges are prohibited except in emergencies that cannot be prevented by the producing plant. If emissions can be prevented, they are not considered emergencies and are subject to penalties.

EPA has proposed that instead of prohibiting all but emergency releases, plants should be allowed four to seven discharges per year, depending on the size and location of the plant.

EPA has regulated vinyl chloride since 1975 and says that as a result of its rules, airborne emissions of the cancer-causing chemical from the 50 US production plants have declined from 105,000 tons annually to less than 5,400 tons. Cancer cases were estimated to have declined from 11 to one-half per year.

US-Canada Trade

Continued from Page 4

sions to both the US and Canada; the elimination of non-tariff barriers, such as inadequate protection of intellectual property; and the establishment of a binding dispute settlement mechanism.

In addition, Mr. Foveaux says US import remedy laws and procedures should not be suspended under any agreement with Canada.

Exports to Canada account for about 10 percent of the US chemical industry's total sales, and are valued at \$22 billion annually.

"Although it's one of the few industries still providing a trade surplus to the nation's overall growing trade deficit, that surplus is decreasing annually," Mr. Foveaux told Congress last summer.

The Commerce Department estimates the chemical trade surplus will diminish again this year. US chemical trade with Canada leads all other countries.

The talks between the North American neighbors began a year ago. Major sticking points include such issues as how to treat the flow of pharmaceuticals, lumber and other goods.

But Mr. Yeutter called them "transitory disputes" that should not prevent agreement on broader trade issues. He said he believes the negotiations can be concluded in time for early 1988 Senate ratification of an agreement.

Mr. Yeutter said tariffs dominated each nation's concern during the talks. "Obviously we'd just like to eliminate duties on both sides of the border," he said.

TPA Seen as Aid Against Lung Clots

Scientists at two Boston hospitals say that clinical tests on an experimental drug used to treat heart attacks also works better against long blood clots than treatments currently in use.

Researchers at Brigham and Women's Hospital and Beth Israel Hospital used tissue plasminogen activator, or TPA, produced by Genentech Inc. of South San Francisco, Calif. in the experiment. While many companies are working to develop TPA drugs, Genentech is generally considered the market leader.

A spokeswoman for Brigham and Women's Hospital says that the experimental drug dissolved the lung clots in 37 out of 40 patients tested. Heparin, the drug usually used, has a success rate of only about 5 percent.

Two other drugs, urokinase and streptokinase, are more effective than "Heparin," but are not often used because of side effects.

National Institute of Health figures show that more than 300,000 Americans are hospitalized each year for lung blood clots and the disorder claims 50,000 lives annually.

TPA has been tested since 1983 because of its ability to dissolve clots that cause heart attacks. The drug is currently under investigation by FDA, and approval is expected by June of next year.

Organosulfur Facility Is Set by Pennwalt

Pennwalt Corporation's board of directors has approved the expansion of the Organic Chemicals Division's methane sulfonic acid/methane sulfonyl chloride plant in Wyandotte, Mich., by 6 million pounds per year.

The plant will also produce ethane sulfonic acid, ethane sulfonyl chloride and other specialty organosulfur products.

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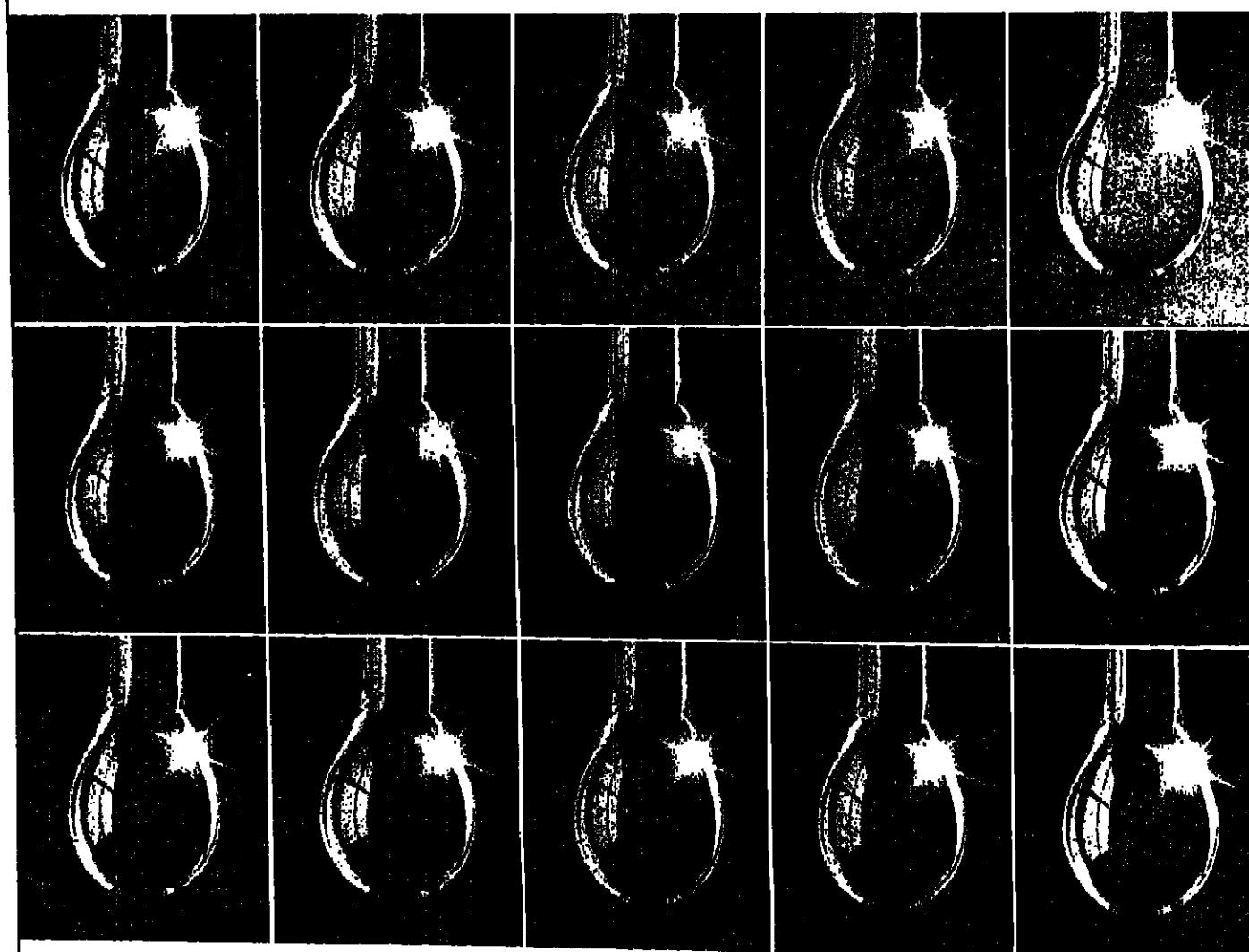
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DRUGS & FINE CHEMICALS

Domestic Glycine Seen Firmer; Import Prices Also Increasing

Domestic glycine prices have firmed throughout 1986, and are expected to continue doing so for at least part of 1987, according to producers. Imported glycine is also said to have firmed.

The current trend reversed a pattern that resulted after capacity expansion and a strong US dollar drove pricing downward in 1983. The capacity expansion was considered a contributory factor because demand never increased as much as was expected.

List prices for domestic glycine remain at \$2.12 per pound for USP grade, and \$1.88 per pound for technical grade. The two domestic producers are Chatterm Chemicals & W.R. Grace. Imports, particularly from Japan, play an important role in the market place.

Domestic spokesmen say that actual selling prices vary, but are commonly between five and ten percent below list prices. One spokesman claims that sales at 10 percent below list are becoming rare.

WEAK DOLLAR CITED

The US dollar's weakening is cited as the main reason for firming prices. Producers complain that recent selling prices have been too low for a healthy profit. Because of the dollar, importers are also raising their prices, and one importer concedes that his company's prices are close to those of the domestic companies.

"There's still a slight premium for domestic material," he says, but admits that the difference is not great. He thinks, however, that import pricing will remain stable for the rest of 1986 and the beginning of 1987.

Glycine imports rose by about 57 percent through August 1986, compared to the same period in 1985. Through August, 1.1 million pounds of glycine entered the US, compared to a little less than 700,000 pounds through August 1985. Japan, the main exporter to the US, has increased US sales to 995,000 pounds this year, up from 628,000 pounds. Importers claim that demand has been healthy, despite the dollar's devaluation.

BHT — PMC Specialties Group, Inc. is increasing its prices for both the technical grade and food grade of BHT. PMC markets the technical grade under the name "CAO-1" and the food grade under the name "CAO-3." The increases are 5c. per pound, effective January 1. A PMC spokesman says that import stabilization is allowing for the increase. BHT's price last increased about two years ago, says the spokesman.

POTASSIUM & SODIUM HYDROXIDE — Mallinckrodt, Inc. recently raised its prices for both potassium hydroxide and sodium hydroxide. Effective November 1, the increases range from 2 to 8 percent, depending on quantity.

New prices for potassium hydroxide, NF pellets, are \$1.33 per pound for a truckload, and \$1.69 per pound for one drum. Prices for the ACS pellets are \$1.49 per pound for a

truckload, and \$1.89 per pound for one drum. Truckload quantities of sodium hydroxide in the form of NF pellets, are \$1.06 per pound, while one drum costs \$1.35 per pound. The ACS pellets cost \$1.09 per pound in truckload quantities, and \$1.38 per pound for one drum.

For both products, truckload quantities

PRICES TRENDLINES

WEEK ENDING NOV. 6, 1986

CHANGES/UP

Ascorbic Acid, \$1 per kilo
B, \$2 per kilo
B, \$2 per kilo
B, \$3 per kilo
D-calcium, \$1 per kilo

CHANGES/DOWN

None

DRUGS INDEX

The Drugs & Fine Chemicals Index reflects the prices of 10 representative materials in this sector and the quantity of each produced in 1985.

Nov. 8, 1986 211.16
Oct. 31, 1986 211.16
Oct. 10, 1986 211.16
Nov. 7, 1985 211.16

Chemical Prices Start on Page 38

are 24,000 pounds, while each drum contains 110 pounds.

According to a Mallinckrodt spokesman, prices are increasing for the first time in about two years, and are doing so now because of rising manufacturer costs. The spokesman estimates current growth between 3 and 6 percent annually.

SORBATES — Mitsui & Company is raising its prices for both potassium sorbate and sorbic acid, effective December 1. Mitsui is the exclusive US distributor for Dancel Chemical Industries, Ltd., and Nippon Gohsei.

Prices for both products will be rising 30c. per pound. Twenty thousand pounds or more will cost \$2.50 per pound, delivered; 10,000 pounds to 19,900 pounds will cost \$2.60 per pound, delivered; 3,000 pounds to 9,900 pounds will cost \$2.70 per pound, delivered; 1,000 pounds to 2,900 pounds will cost \$2.80 per pound, delivered; and less than 1,000 pounds will cost \$2.80 per pound, f.o.b. closest warehouse.

A Mitsui spokesman claims that increased costs from suppliers prompted the increase. Prices for these products last increased in May. Other players are currently examining the increases.

VITAMINS — BASF Wyandotte and Duphar Nutrition are raising their prices for several vitamins, effective immediately.

Both companies are raising their B₆ price

BOTANICAL DRUG IMPORTS: AUGUST

CENSUS BUREAU REPORTS ON SELECTED BOTANICAL DRUGS.

	AUGUST		JULY	
	QUANTITY	\$ VALUE	QUANTITY	\$ VALUE
Agar	241,432	1,431,888	118,242	1,087,368
Balsams, nat. nepi.	14,522	88,367	15,084	72,388
nat. styrex	3,120	18,329	43,343	118,982
nat. tola	3,527	19,207	3,307	18,272
Crude animal glands, organs and parts	6,549	333,882	40,802	50,401
Ginseng roots	189	7,901	3,831	184,488
Ginseng, adv.	35,781	512,821	14,178	287,758
Ginsenosides	15,219	481,469	29,483	480,183
Gum, Arabic	785,688	1,582,832	582,704	1,078,989
Gum, Damir	1,571,770	806,595	5,889,472	2,011,455
Gum, Locust Bean	383,539	1,892,841	389,173	2,185,803
Gum, Karaya, nat.	75,483	80,248	161,884	141,526
Gum, Tragacanth, nat.	4,410	15,508	632	6,898
Linseed oil	35,181	34,182	3,308	4,484
Natural crude drugs, bile, other animal secretions	0	2,711	812,898	4,243,730
Natural crude drugs, nat.	4,007	44,680	12,484	40,310
Natural adv drugs, animal origin, nepi.	841,020	1,895,358	358,591	1,775,271
Natural adv drugs, misc.	348,580	1,175,609	258,282	1,002,382
Papaya seed extract	288,580	1,038,320	258,282	1,002,382
Pyrenum seed husks	674,818	888,308	987,071	988,740



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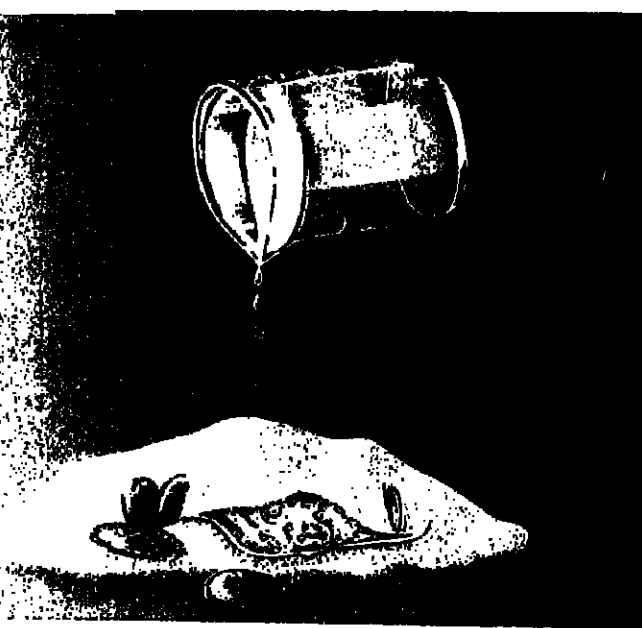
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DRUGS & FINE CHEMS

to \$36 per kilogram and their B₃ price to \$12.50 per kilogram. Additionally, BASF notes the following increases: ascorbic acid and sodium ascorbate, \$11 per kilogram; both forms of B₁, \$33 per kilogram; and B₂, \$48.50 per kilogram.

Duphar is also announcing another vitamin increase, effective November 15. Vitamin D₃ resin will cost .0166¢ per million units (mu) for 8 kilograms and more, while orders less than 8 kilograms will cost .02¢ per mu.

Many of their increases are similar to those announced last week by Hoffmann-La Roche and Takeda USA (CMR, 11/3/86, pg. 22). Currency exchange rates are cited as the major reason for price increases.

CPC Buys Back

Continued from Page 9

capital expenditures in keeping with the new objectives," a spokesman for CPC stated.

By mentioning the grocery products business — which includes "Hellman's" mayonnaise and "Skippy" peanut butter — for particular approbation, CPC encouraged the speculation that it might sell off its corn milling operations — the largest of their kind in the world. CPC is also the leading producer of high-fructose corn syrup and derivatives.

Directors of CPC authorized the repurchase initially of up to 10 million of the company's 48.7 million shares of outstanding common stock.

Since the avowed purpose of the restruc-

turing was to maximize shareholder value rather than to make it possible to buy off Perelman, it is expected that CPC will complete at least the balance of the 10-million share repurchase authorization.

CPC said that while the share buyback will be financed at first through borrowing, the company intends ultimately to reduce and eliminate the debt through the disposition of assets resulting from the restructuring program and to retain substantial financial flexibility for future strategic development.

James R. Eiszner, CPC's president and chief executive officer, said that the decision to authorize the repurchase of the WCC shares "was made after considering the prospects based on the investments we have made in recent years and the evidence we have in both the immediate and long-run benefits of the restructuring program."

National Distillers Completes Purchase

National Distillers & Chemical Corporation has completed its purchase of Euron Chemical Company, the petrochemical subsidiary of Euron Corporation. The purchase price was approximately \$570 million, and the assumption of approximately 10 million of industrial revenue bond debt.

NDCC chairman, John Hoyt Smith, stated, "This acquisition signals our commitment to the chemical industry and to NDCC the nation's largest polyethylene producer with an annual capacity of 3.1 million pounds."

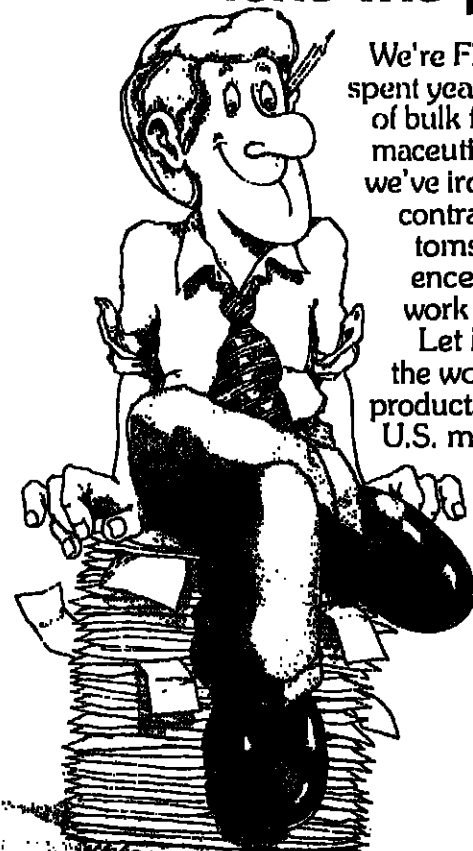
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Alpha Tocopherol

Continued from Page 5

essence, but also from external sources, such as polluted air, cigarette smoke and certain foods. While the minimal exposure to nitrosamines caused by eating or cooking bacon has not in itself been shown to be harmful, the body overall is exposed to numerous toxic insults from various sources over time. "Consequently," Mr. Mergens notes, "anything that can be done to reduce our overall exposure to toxic compounds would certainly be desirable."

Vitamins as "protectors" — A broader significance of the research with bacon, Mr. Mergens says, is that it provides further evidence emphasizing the important antioxidant properties of vitamins such as C and E, a subject of considerable scientific interest regarding cellular protection and health.

Roche began studying the potential roles of vitamins in inhibiting nitrosamines during bacon frying in the early 1970's. "It was known at that time that vitamin C was used in bacon as a curing accelerator," Mr. Mergens explains. "We later learned that vitamin C also partially inhibited the formation of nitrosamines in the lean portion of the meat, but not in the fatty portion."

"Since we knew that alpha tocopherol, or vitamin E, acts as a fat-soluble antioxidant in humans, animals and plants," Mr. Mergens explained, "we investigated its potential to

inhibit nitrosamine formation in bacon by reducing the oxidation that occurs in the fatty portion of the meat during frying, and it worked very well," he said.

Dow, Monsanto

Continued from Page 9

both by internal development and acquisitions, the latter including a unit from Imperial Chemical Industries, Ltd., along with acquisitions of MacArthur PLC and Jackson Company, the analyst states.

A strong cash flow should allow the final payment of 1 million UK pounds to be made to ICI in May of next year without recourse to further borrowing, it is stated.

In recommending purchase of Dow's shares, Mabon, Nugent's Mr. Reitzes notes the growing probability that commodity chemical price increases initiated on October 1 will stick.

Mr. Reitzes estimates that part of the proposed price increase will contribute between 60 cents and 75 cents per share to Dow's 1987 earnings.

Mr. Reitzes reaffirms his forecast that Dow's earnings will rise to \$3.85 in 1986 and \$4.75 in 1987, as compared with net operating income of \$2.56 in 1985.

Messrs. Coates and Penny Swales of Barclays de Zoete Wedd expect Dow to earn around \$3.75 in full-year 1988. They note the increasing improvement in commodity chemical operating rates.

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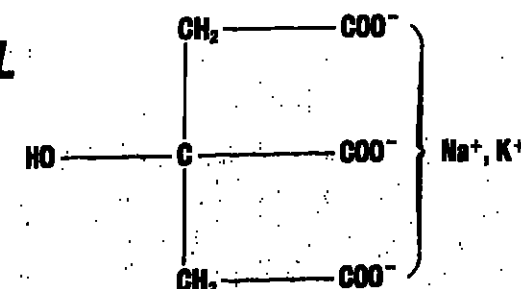
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Hoechst Launches

Continued from Page 3

Celanese spokesman Herb Reed, but Mr. Macomber is expected to depart once the merger is completed. He will walk away with the proceeds from his current holdings in Celanese stock — about 75,000 shares — plus additional compensation.

American Hoechst says the acquisition is being financed through internally generated funds and private borrowings. While analysts do not foresee Hoechst selling off large chunks of Celanese to pay for the purchase, it is anticipated that some assets might be sold.

Lee Ravitz, chemical analyst at Salomon Brothers, says there is "no question" that Hoechst will sell off some Celanese assets, but he does not look for any "fire sales."

Analysts speculate that some commodity lines, such as methanol and formaldehyde, might be sold. Also mentioned is Celanese's 57 percent equity stake in Celanese Canada and its methanol project in Saudi Arabia. Last year, Celanese took a \$21 million write-down of the value of its methanol venture in Saudi Arabia. The company also placed its Clear Lake, Tex., methanol plant on standby.

Commenting on the proposed merger, Mr. Macomber said last week that "it provides both companies with an unprecedented opportunity to accelerate and expand their growth in world markets." Celanese, he said, "gains access to new technologies, research and development expertise and new product lines."

Dieter zur Loye, president and chief executive of American Hoechst, observed that the two firms "practice complementary categories of chemistry which fit smoothly together."

The Hoechst subsidiary posted sales last year of \$1.7 billion, with fibers and film accounting for \$623 million of the total, followed by specialties (\$422 million), petrochemicals and plastics (\$316 million) and health-care and the company's Agri-Vet unit (\$333 million combined).

Celanese reported sales last year of approximately \$3 billion, with fibers account-

ing for roughly half of total sales, followed by chemicals and specialty products.

Hoechst AG recorded world sales of \$10 billion in 1985 and \$8.8 billion in the first half of this year. The company is approximately 24 percent-owned by Kuwait.

Following the merger announcement last week, Standard & Poor's affirmed its "A" commercial paper rating for Hoechst Corporation, noting that the parent company in Germany has "built sufficient debt capacity over the past several years to make a large acquisition without sacrificing credit quality." Standard & Poor's also said the "maturity and cyclical nature" of Celanese's commodity business "poses less of a weakness in the context of Hoechst's global chemical business."

S&P put Celanese's various debt ratings in its "Credit Watch," which means the ratings may be raised, lowered or affirmed.

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Animal Drugs Set for Review

An international committee of veterinary drug experts has recommended review of several commonly used livestock drugs to establish international agreement on the safety of residues from the drugs in food products, according to a USDA official.

"The Codex Committee on Residues of Veterinary Drugs in Food has established a list of seven animal drugs for which the committee recommends international scientific review in order to reach agreement on allowable levels of residues from the drugs in food," said Lester M. Crawford, associate administrator of USDA's Food Safety Inspection Service and chairman of the committee. "The list includes growth-promoting hormones, the antibiotic chloramphenicol, sulfa drugs and four other classes of drugs."

Mr. Crawford said that, in compiling the list, the Codex Committee considered any substance administered to agricultural animals, including hormones and externally applied pesticides, that could leave a residue in food products such as meat, milk, eggs or fish. He said the initial list includes the seven substances which the committee believes deserve top priority, and that the committee may recommend other drugs for review at a later date.

The Codex Committee on Residues of Veterinary Drugs in Food is a new committee established by the Codex Alimentarius Commission, an international group of experts who work toward the adoption of common international food standards to protect consumers and promote fair trade.

The Codex Committee held its first meeting, attended by 175 representatives from 40 countries and 10 international organizations, last week at the US State Department. Both

the commission and the committee are supported and funded by the United Nations' Food and Agriculture Organization, the World Health Organization and participating nations.

Mr. Crawford said the development of the committee's list is a "significant" first step toward international agreement on veterinary drug issues, including the establishing of common allowable levels of veterinary drug residues in food. Currently, there exist wide variations among countries in animal drugs allowed and in the maximum residues permitted.

"Because of advances in science, we can now detect substances that are present in food in parts per billion or even parts per trillion in some cases," Mr. Crawford said.

"Unfortunately, some countries use this capability to prohibit the use of certain drugs whose residues can be detected but are not likely to be harmful, while other countries may allow the entry of products containing residues of substances almost universally viewed as unsafe. There is a great need for international standardization," he said.

Centocor Plans New Partnership

Centocor, Inc., Malvern, Pa., says it plans to form a research and development limited partnership to fund the development and clinical testing of a therapeutic product for the treatment of hospital-based gram negative infections and three cancer imaging products.

The partnership intends to fund the development of these products with the private placement of approximately \$60 million of limited partnership interests to selected qualified investors. In connection with the offering of the limited partnership interests, Centocor will issue warrants to purchase approximately 1.7 million shares of Centocor Common Stock.

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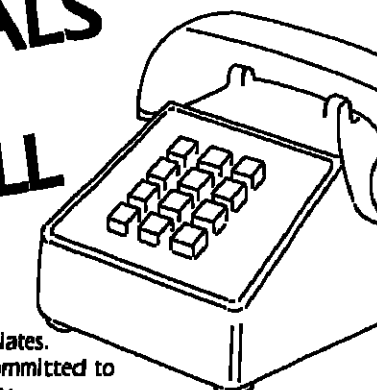


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Avery Raises \$1-Billion-Plus For Acquisition

Avery Incorporated, a diversified manufacturer headquartered in New York, has raised more than \$1 billion through a private placement of debt and equity securities to finance its previously announced acquisition of Uniroyal Chemical Company.

As a result of the transactions, Triangle Industries, Inc., which previously owned about 20 percent of Avery's shares, will have a total participation of 45 percent in Avery's common stock, but Avery will not be a subsidiary of Triangle and the latter will have no responsibility for the liabilities of Avery and its subsidiaries.

In the first step, Triangle made a further equity investment in Avery of \$75 million in the form of preferred stock, plus warrants to purchase 40 million additional shares of Avery common stock at \$1.875 per share.

In addition, Avery issued \$100 million principal amount of 10 percent convertible subordinated debentures due 1996 which are convertible into Avery common stock at \$3.25 per share.

Uniroyal Chemical Holding Company, a wholly-owned subsidiary of Avery, issued \$350 million principal amount of 12.25 percent subordinated notes due 1996.

Uniroyal Chemical Acquisition Corporation, a wholly owned subsidiary of Uniroyal Chemical Holding, issued \$210 million principal amount of 11.5 percent subordinated notes due 1995 and \$350 million principal amount of increasing rate senior notes due 1988 bearing an initial annual interest rate of 9 percent.

In addition, Avery issued warrants to purchase 12 million shares of Avery common at \$2.50 per share to Drexel Burnham Lambert Incorporated, which acted as advisors to Avery in connection with the acquisition of Uniroyal Chemical and the related financing. Avery intends to seek shareholder ap-

proval to increase its authorized capitalization, from 15 million common shares currently to at least 150 million.

As a result of this financing, Uniroyal Chemical Holding has approximately \$100 million in excess cash to be used for general corporate purposes, including possible future acquisitions. Also, it is expected that the \$100 million of increasing rate senior notes will be financed in the near future with a bank loan or through another private placement of securities.

Huls Markets IPDI In Bulk to the US

Huls, the West German chemical manufacturer, recently made its first bulk shipment of isophorone diisocyanate (IPDI) from Germany to the US.

The company has manufactured the material in Europe for 30 years and is its sole supplier of IPDI in the world.

IPDI is used in the synthesis of light-curable and weather-resistant polyurethane coating systems. Applications include corrosion and high-solids two-component paints and lacquers, solvent-free PU compounds and coatings, powder coatings, solvent-borne blocked PU systems for baking enamels and physically drying PU resins for coating flexible substrates.

Oils Meeting Set for November

The tenth International Congress of Essential Oils, Fragrances and Flavors will be held next week in Washington, DC from November 16 through November 20. Participants from every major producing area around the globe will convene, including shippers, processors and consumers.

"This meeting will permit a close change of information on usage on oil, and production on the other," says E. K. E. ell, member of the planning and budgeting committees for the Congress.

The Congress of Essential Oils, Fragrances and Flavors meets every two years. The last two were held in London and Japan.

PERFUMES & FLAVORINGS

Spearmint Market Weakening From Imports And Oversupply

Chinese 80 percent carvone spearmint oil dropped 10 cents per kilo last week from \$10.10 to \$10.00 per kilo, cost and freight insured, New York. The decline signaled an oversupply situation, according to industry sources, that could affect prices through most of 1987.

"The Chinese generate enormous amounts of material," says an essential oils importer. "They are forever looking for an expanding market." Though the usages for spearmint oil are slowly expanding in line with consumption of such items as soaps and toothpastes, he adds, it remains a very limited market.

The Chinese compete with the domestic US spearmint growers for a large but saturated market. Prices for the Chinese 80 percent, a higher quality, redistilled version of the 60 percent but with fewer terpenes and more carvone, undersell the US Far West Native spearmint oil on the spot market by about \$1 per pound. The two materials don't compete head to head for most applications, says an essential oils broker, but they do when slight flavor differentials may not be noticed.

An essential oils dealer emphasizes that the Chinese prices have been coming down for some time: "The shipping prices have eased more than \$2 per kilo over the last year, down from \$12 to \$12.50 per kilo."

US producers look for prices of all domestic spearmint oils to weaken. One of the primary reasons for the outlook is an oversupply situation. "There is still a tremendous amount of carryover from last year," says a US spearmint grower. "This year's crop is an excellent yield, probably record setting. Growers have been reporting as high as 200 pounds per acre from first and second cuttings."

FEDERAL MARKETING ORDER

Another important factor in the US spearmint pricing outlook is the Federal Marketing Order that has been in place since 1981. Under the order, a producer is given an allotment certificate enabling him to sell only the quantities specified. "The problem is that all excess oil put on the market goes into a non-saleable reserve pool," the US grower says. "Now buyers are holding off until the price drops; they know the oil is there."

"The purpose of the Federal Marketing Order was to maintain stable supply and strong pricing," says one source. "That succeeded and since 1981 we've had high prices, but now the supply is overwhelming the market."

Another problem that has arisen since the institution of the Federal Marketing Order has been the marketing of the allotments themselves. "Larger producers have been buying and selling the permits involved; a whole market has evolved from thin air," says a US producer. Though this maneuvering has been constant, he stresses, the major hurdle is the ever-growing reserve pool.

Source: speculate that the only way prices

could firm in 1987 for the US spearmint oil would be for growers to take large amounts of acreage out of production. "No one is bowing out as of yet," says a grower, "especially when it's so difficult to get the crop to mature in the first place."

ESSENTIAL OILS

FENNEL OIL — Indian fennel oil prices jumped over \$3 per kilo last week on the heels of a price increase for the raw material.

PRICES TRENDLINES

WEEK ENDING NOV. 7, 1986

CHANGES/UP

Anise seed, Turkish Reclamed, 2c. per lb.
Balsam Copaiba oil, 20c. per kilo
Cassia, Indonesian, 2-10c. per lb.
Cloves, futures, 10c. per lb.
Cumin oil, 88 per lb.
Cumin seed, futures, 4c. per lb.
Dill seed, Indian, 5-7c. per lb.
Dill weed oil, 50c. per lb.
Lemongrass, Indian, 15c. per kilo
Rosemary, 2.5c. per lb.
Savory, French, 4c. per lb.
Tarragon, French FAQ, 20c. per lb.
Turmeric, Alleppey FAQ, 2c. per lb.
Velvet oil, bourbon, \$11 per lb.

CHANGES/DOWN

Cassia oil, Chinese, 75c. per lb.
Cardamoms, Indian bleached, 10c. per lb.
Clove bud oil, Madagascar, \$1 per kilo
Cumin seed, Turkish, 2c. per lb.
Fennel seed, Indian reprocessed, 2c. per lb.
Limes cubana oil, 10c. per kilo
Mustard seed, US & Canadian, 1-2c. per lb.
Orange oils, 5c. per lb.
Rosemary oil, Turkish, \$1 per kilo
Spearmint oil, Chinese 80%, 10c. per kilo
Velvet oil, Javan, \$1 per kilo

PERFUMES INDEX

The Perfumes & Flavorings Index reflects the prices of 11 representative materials in this sector and the quantity of each supplied in 1985.

Nov. 7, 1986 71.00
Oct. 31, 1986 71.00
Sept. 26, 1986 71.00
Nov. 8, 1985 71.00

Chemical Prices Start on Page 36

Quotes for Indian fennel oil f.o.b. India ranged from \$21 to \$22 per kilo.

"It is a very small item," says an essential oils importer, "no more than 4 to 6 tons are imported every year." Given its size and restricted flavoring applications — only those usages that require the anise oil-type flavor — any substantial fluctuation at point of origin can affect shipping prices.

Another fennel on the market is the Spanish fennel bitter but its applications are so specialized, sources report, that the Indian fennel market doesn't affect its pricing.

GINGER OIL — The ginger oil market turned around in the past two weeks from an oversupply situation caused by large carry-

PERFUME & FLAVOR IMPORTS: AUGUST

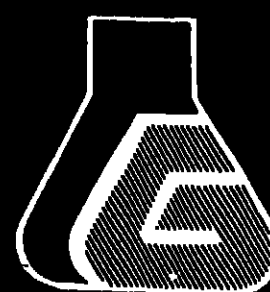
CENSUS BUREAU REPORTS ON THE KEY AROMA CHEMICALS

	AUG. '86	JULY '86	YR to Date '86	AUG. '85
Benzyl Acetate	171,737	122,136	964,892	122,578
Citronellol	3,306	27,846	45,275	6,484
Citral	13,889	—	72,016	7,355
Chromanol	1,485	33,286	124,678	23,000
Civet	3,732	2,378	25,262	374
Isopropyl Vanillin	83,834	87,106	304,000	32,168
Suprenol (Suprenol)	33,269	25,096	200,047	11,377
Geraniol	13,343	—	76,034	441
Hydroxycitronellal	22,886	66,615	211,533	20,000
Isopropyl Citronellol	4,798	38,656	285,266	440
Isobornyl	440	2,390	19,669	1,974
Isobornyl Acetate	51,489	37,170	468,958	37,510
Isobornyl	132,113	144,403	736,849	—
Isobornyl Salicylate	123,887	219,252	1,883,626	—
Isobornyl	122,180	132,983	784,031	101,883
Isobornyl Alcohol	183,334	145,692	1,072,959	119,771
Isobornyl	90,989	168,698	1,140,714	80,565
Isobornyl	—	—	2,821	607
Isobornyl	210,273	368,198	2,244,129	368,576

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PERFUMES & FLAVORS

overs from 1985 to supply tightness with Indian ginger crops expected to be smaller than usual. Spot prices firmed \$6 to \$30 per pound in the past two weeks for Indian ginger oil. Chinese ginger oil prices have remained at \$23 to \$24 on the spot market but are expected to increase.

"The farmers didn't plant near as much as we thought they would," says one essential oils broker. "Rather than take a chance on the prices that they considered low, they changed to other crops altogether." Demand has been steady for ginger oil (CMR, 10/20/86, pg. 34), leading sources to anticipate further price increases. Estimates on the size of the 1986 India ginger crop range as low as half of the total 1985 production.

SEEDS AND SPICES

CASSIA — Prices for cassia continue to

climb as dealers try unsuccessfully to obtain material from Indonesia. The "market board" will not make any offers until November 12, forcing prices on the limited amount of available cassia to firm. "We're trying to buy merchandise," says one spice broker. "But they're keeping us in the dark."

Spot prices for Indonesian "A" 4.5/4.6 increased from \$1.08 to \$1.10 per pound, \$1.15 to \$1.20 per pound. Other Korintji prices increased 2c. to 4c. per pound. The futures market responded similarly, up 2c. to 6c. per pound for cassia delivered from January through April, 1987.

Another broker says price firming in the past three weeks was in anticipation of a "single selling system" rather than the product scarcity or increased demand. The system will not allow buyers to choose shippers they wish to patronize. Buyers have been scrambling to get as much cassia as those shippers they consider efficient and reliable before the system was instituted.

He adds that smaller Indonesian shippers and newcomers to the international market stand to benefit a great deal by securing large orders that wouldn't otherwise have been placed with them. But problems arise when an outfit doesn't have the personnel or facilities to guarantee the product will meet US sanitary requirements.

Sources predict that the "marketing board" will set a floor price on November 12 and "gradually try to increase cassia prices throughout 1987, testing whatever the market will bear." Until actual offers are made, emphasizes one source, prices reflect the material on hand, and that is diminishing rapidly.

EPA Standards Limit Emissions

Environmental Protection Agency has set final standards under the Clean Air Act limiting emissions of particulate matter and oxides of nitrogen from industrial steam generating boilers.

The new standards are expected to limit emissions of particulate matter (PM) smoke and soot, by approximately 20 tons per year nationally. Oxides of nitrogen (NO_x) emissions would drop by approximately 25,000 tons per year.

These represent about a 40 percent reduction in the growth of PM and about a 10 percent reduction in the growth of NO_x emissions from new steam generating units covered by these standards.

"The rules apply primarily to industrial boilers, but include the largest institutional and commercial steam generating units and the smallest utility boilers.

Next to utilities, these steam generating units are the largest stationary sources of PM and NO_x emissions on a national basis. The rules require all new units with over 100 million Btu/hr capacity to meet the stringent standards.

EPA initially adopted standards of performance limiting PM, NO_x, and sulfur dioxide (SO₂) emissions from fossil-fuel fired units in 1971. Those rules applied only to the largest industrial boilers and utility boilers (greater than 250 million Btu/hr).

The agency revised the standards applying to electric utility boilers in 1979 and proposed new standards for PM and NO_x emissions from units greater than 100 million Btu/hr in June 1984. In June 1986, the agency proposed new limits requiring SO₂ reduction for boilers larger than 100 million Btu/hr. These rules finalize the June 1984 PM and NO_x proposal.

EPA estimates the national cost of the standards will be about \$38 million in the fifth year. This represents an increase of less than one percent over baseline in the annualized costs associated with the operation of new industrial, commercial or institutional steam generating units. The incremental costs of reducing the particulate matter under this rule are about \$1,100 per ton of particulate matter and about \$400 per ton of oxides of nitrogen.

Under civil suit brought by the American Lung Association and the Natural Resources Defense Fund, the U.S. District Court for the Southern District of New York ordered EPA to meet its PM and NO_x standards by November 1987.

COATINGS & PLASTICS

Recycled PET, Plastics Establish Growing Base

Recycled plastics are slowly establishing an identity in the market. Currently, all major plastics, particularly polyethylene terephthalate, polypropylene, high density polyethylene and nylon are being recycled and resold. Not only are larger plastics producers recycling their own material for resale, but small companies specializing in plastics recycling are now marketing recycled materials to molders, extruders and plastics compounders; some are developing their own lines of finished products.

According to John Molloy, of the Plastics Bottle Institute, a division of SPI, these companies specialize in PET recycling; they buy soft drink bottles, grind, clean and recycle them into flaked PET, which they then sell to molders or make into finished sheet.

Various sources describe the market for recycled PET as ranging from 100 million to 130 million pounds per year; merchant markets for recycled nylon, PE and PVC are much smaller; sources relate that they are still in the developmental stages, and at present their size cannot be determined.

Of the twenty companies currently involved in the recycled PET business, the three largest are Nycorn Industries, C.I., Wellman Industries Inc., S.C., and St. Jude Polymer Inc., Pa.

PET IS FOCUS

Steve Babinechak, president of St. Jude Polymer, reports that his firm concentrates on PET soft drink bottle recycling, although they also recycle base-cup HDPE. The company sells over 10 million pounds of recycled PET per year, and about 2 million pounds of HDPE, he says. It makes the recycled PET into crystal and solid state polymerized pellets, which are sold for 35 to 40 cents per pound; these are made into materials used primarily in engineering plastics applications, and as metal in packaging applications.

The company has been in business for 9 years; currently it faces stiff competition from a major manufacturer of virgin PET, which is said to be selling less expensive material.

Despite these setbacks, Mr. Babinechak is confident of future success and continued annual growth, mostly through new finished plastics applications. He reports that the company will be starting a joint venture with a New England firm, to be announced in the first quarter 1987.

In the research and development area, St. Jude is working on pilot recycling projects with the Coca Cola Bottling Company, involving EVAL and PVDC coatings. Although the firm is now capable of recycling these materials, it is not yet doing so on a commercial basis.

To meet anticipated future growth, the company plans to double its PET recycling capacity to 20 million pounds by June of 1987.

A spokesman for Wellman Industries Inc.

reports that his firm recycles both nylon and PET for use in polyester fiberfill; it also extrudes its own recycled plastic material.

There is said to be considerable overcapacity in the recycled plastics market, as these and other growing companies wait for new applications to develop. This is especially pronounced in the green bottle resin area; sources relate that a substantial amount of this material is being stored in hope that future uses for it will emerge. Recyclers are pinning their hopes on extruded sheets, reinforced injection molding, and filled polyester resin products.

The Plastics Recycling Foundation, an independent non-profit organization founded last year, works with recyclers, packaging manufacturers and bottlers to develop new markets for various recycled plastics. The

PRICES TRENDLINES

WEEK ENDING NOV. 7, 1986

CHANGES/UP

None

CHANGES/DOWN

None

COATINGS INDEX

The Coatings & Plastics Index reflects the prices of 13 representative materials in this sector and the quantity of each produced in 1985.

Nov. 7, 1986 306.4
Oct. 31, 1986 306.4
Oct. 10, 1986 306.4
Nov. 8, 1985 306.4

Chemical Prices Start on Page 36

group, which currently consists of 26 plastics producers, packaged goods companies, soft drink companies, recyclers and others, is funded by state and Federal agencies in New Jersey, Ohio and Michigan.

The Foundation established a Plastics Recycling Institute at Rutgers University in New Jersey last year, which has been certified as an Industry/University Cooperative Research Center of the National Science Foundation. Its pilot plant at Rutgers, so far the main focus of the Foundation is said to be operating at demonstration rate of 600 pounds per hour, with 99.5 percent purity levels.

The Foundation has established similar but smaller projects at the New Jersey Institute of Technology, Michigan State University and Toledo University, with projects ranging from research into recycling HDPE milk bottles to market development programs.

Working closely with recycling companies, the Foundation operates an extensive technical data base; it is researching to improve plastics recycling, and to demonstrate

Continued on Page 33

PLASTIC RESIN SALES & OUTPUT: AUGUST

SPI'S COMMITTEE ON RESIN STATISTICS REPORTS.

	SALES AND USE (1,000 LBS)		PRODUCTION (1,000 LBS)	
	1986	1985	1986	1985
THERMOSETTING RESINS:				
Epoxy resins (unmodified)	30,728	31,893	31,289	34,006
Urethane resins	103,834	94,245	105,067	95,188
Phenolic resins	102,021	109,321	104,770	102,748
Phenolic and other tar acid resins	226,354	221,217	228,519	218,739
Maturing resins	15,052	16,091	15,025	15,995
THERMOPLASTIC RESINS:				
Acrylonitrile Butadiene Styrene (ABS)	86,331	81,830	89,870	94,486
Polyvinyl alcohol	13,480	13,480	13,480	13,480
Polyvinyl chloride	613,288	586,469	588,242	621,367
Polyethylene (density above 0.940)	627,742	592,488	631,833	647,194
Polyethylene (density below 0.940)	787,268	727,623	710,821	742,722
Polypropylene	813,037	439,858	488,730	436,078
Styrene-acrylonitrile (SAN)	7,435	7,435	7,435	7,435
Polyethylene (total)	361,828	340,179	377,487	333,670

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HEAVY & AG CHEMICALS

PVS Announces Sulfuric Hike In Depressed Chicago Market

In an attempt to firm up prices in the depressed Chicago-area market, PVS Chemical Inc. has announced an increase in off-list prices for sulfuric acid. The hike is for shipments from its Chicago, Ill., plant and is effective January 1, 1987, or as contracts allow.

The new price for 66 degree Baume acid will increase by \$5 per ton, 66 degree Baume basis, not to exceed current schedule of \$64.50 per ton.

The price of 80 degree Baume and 98 percent acid will increase by \$5.35 per ton, 100 percent basis, not to exceed schedule of \$79.25 per ton.

In addition, all grades of oleum will increase by \$5.35 per ton, 100 percent basis, not to exceed schedule of \$82.25 per ton, 100 percent basis.

Major suppliers in the area include C-I-L, which markets Canadian acid, Stauffer Chemicals, which produces in Hammond, Ind., and to a lesser extent, E.I. du Pont de Nemours & Co., which produces in Ohio and markets some Southwest smelter acid.

Sources say that prices have been stable for some time, but at levels that most consider to be unsatisfactory.

"Sulfuric acid producers are not making a great deal of money in that area," says one observer. Selling prices for large buyers are quoted in the \$62-to-\$65 per ton range, 100 percent basis, f.o.b. plant, considerably below list levels.

COST DRIVEN INCREASE

Most concede that if an increase is successful, it will be production cost, rather than supply-demand, driven. Raw material sulfur prices have increased moderately over the course of the year, while sulfuric acid prices have stayed flat, or declined.

On the other hand, observers say that the Midwest, with Chicago being no exception, is amply supplied. St. Joe's Herculaneum, Mo., smelter acid plant is in the process of starting up, having been down since May. The company's presence in Chicago is minimal, however.

Asarco closed its Columbus, Ohio, zinc smelter early this year, but has been supplying that terminal from its El Paso, Tex., smelter.

The area's last significant plant closure was Du Pont's late-1984 East Chicago shutdown. Since then, Midwest demand has been relatively flat, while area producers continue to lose the fight against smelter acid imports from Canada.

According to Bureau of Census, through September 1986, 390 tons of sulfuric acid have entered the US from Canada, as opposed to 324,776 tons for the same period last year.

At the same time, says Department of Commerce, production in the Midwest has declined. Through August, 381,082 tons were produced in Illinois, a decline of 12 percent from the same period last year. Similarly, 234,952 tons were produced in Ohio through August, a decline of over 11 percent.

Sources now say that any increase in the area is likely to depend on the support of

C-I-L. C-I-L is aware of the announcement but at present has no comment on its plans.

BASES & SALTS

CHLORINE — Effective immediately for spot customers and as contract terms allow, Pennwalt is increasing the price of bulk chlorine by \$20 per ton, not to exceed \$195 per ton for shipments from either Portland, Ore. or Tacoma, Wash.

Pennwalt is also increasing prices for

PRICES TRENDLINES

WEEK ENDING NOV. 7, 1986

CHANGES/UP

None

CHANGES/DOWN

None

HEAVY & AG INDEX

The Heavy & Ag Chemicals Index reflects the prices of 18 representative materials in this sector and the quantity of each produced in 1985.

Nov. 7, 1986 113.01
Oct. 31, 1986 113.01
Oct. 10, 1986 113.01
Nov. 8, 1985 113.01

Chemical Prices Start on Page 36

containers by 1c. per pound and chlorine cylinders by 1 1/4c. per pound (5c. per pound for cylinders in Montana).

New list prices follow for ton containers more than 75 tons per year, 18c. per pound; between 45 and 74 tons per year, 18 1/2c. per pound; between 20 and 44 tons per year, 17 1/2c. per pound; between 11 and 19 tons per year, 18 1/2c. per pound; and between 1 and 10 tons per year, 22 1/4c. per pound.

New list prices for chlorine cylinders (customer-owned) are: f.o.b. seller's plant, 18c. per pound; f.o.b. seller's plant, Portland, Tacoma, 28c. per pound; f.o.b. metropolitan areas, 32c. per pound; statewide delivered cylinders for Washington and Oregon, 36c. per pound; for Idaho, 40c. per pound; for Montana, west of the Continental Divide, 50c. per pound; for Montana, east of the Continental Divide, 51 1/4c. per pound; for Wyoming, 51 1/4c. per pound; for Alaska, Hawaii, 51 1/4c. per pound; for other off-shore destinations, 34c. per pound; and for Northern California, 40c. per pound.

Observers note the bulk chlorine increase is coming at an unusual time, as most chemical prices are called tight. The Northwest pulp and paper business is said to be doing especially well this year, however, and chlorine supplies in that market are called tight.

One source says that the increase on chlorine in one ton containers and cylinders is a similar hike announced by Canadian chlorine repackagers earlier this year. **SULFUR DIOXIDE** — Surveyed suppliers of sulfur dioxide agree that the price is

FERTILIZER CHEMICAL OUTPUT: AUGUST

CENSUS BUREAU NUMBERS IN SHORT TONS ON KEY FERTILIZERS.

	AUGUST	JULY	AUGUST '85
Ammonia, syn., anhyd.	1,067,432	1,007,819	1,201,000
Ammonium nitrate	377,198	385,739	385,000
Ammonium nitrate/urea solutions	152,238	144,812	154,000
Monammonium phosphates	73,083	68,228	68,000
Other ammonium phosphates	54,710	48,355	48,000
Ammonium sulfate	186,926	186,171	186,000
Diammonium phosphate	714,738	646,400	646,000
Nitric acid	451,501	502,070	502,000
Phosphoric acid	705,754	2,005,241	2,005,000
Sulfuric acid	2,877,128	2,844,988	2,845,000
Superphosphate, concentrated	205,226	25,100	25,000
Superphosphate, normal & enriched	35,445	35,179	35,000
Superphosphate and other phosphate fert.	1,065,516	421,781	421,000
Urea	472,506		

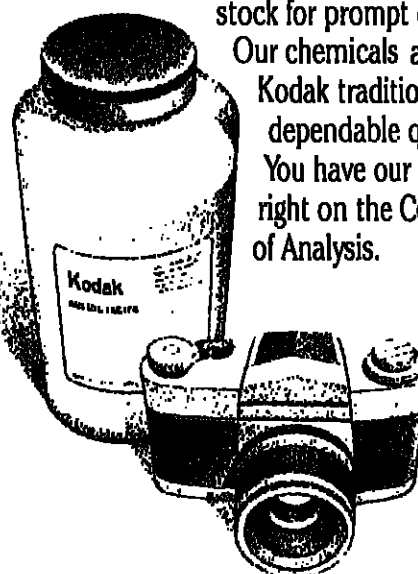
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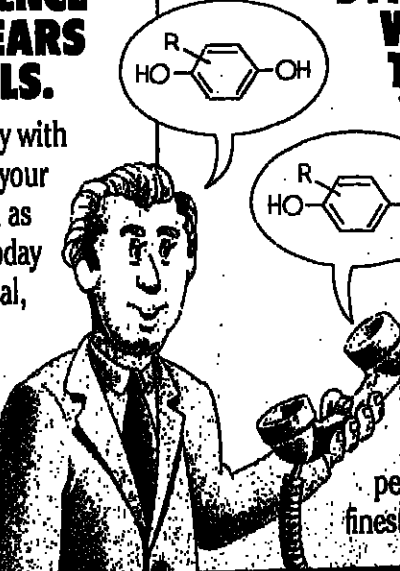
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COATINGS & PLASTICS

Continued from Page 29

state-of-the-art developments in recycling technology to interested companies.

Wayne Pearson, executive director of the Institute, hopes that recycled plastics markets will grow by as much as 10 percent per year through 1990, partly as a result of the Institute's work.

PRIME PIGMENTS

TITANIUM DIOXIDE — Producers say that October's price increases have been fully implemented; selling prices for rutile grades now range from 80c. per pound to 84c. per pound, and those for anatase from 77c. per pound to 80c. per pound. Discount prices are at or near list, producers say.

Supply and demand for ores is said to be in balance, but rutile is currently in short supply, and prices have increased to between \$400 and \$500 per ton, on spot basis. Producers are said to be upgrading ilmenite and Canadian slags, which contain less titanium than rutile ores, whenever practical, to use in place of rutile.

New sources of ore are not yet operational, producers say.

Total domestic demand is expected to reach between 930,000 tons and 970,000 tons this year. One producer, placing the figure at 930,000 tons, explains that coatings will capture 50 percent of the total.

PLASTICS MATERIALS

POLYPROPYLENE — Producers report that October's 2c. and 3c. per pound price hikes are definitely on track so far, and prices are firming across the board, although individual contract terms may be slowing the process in certain market segments. Although current average selling prices do not reflect the full increase, producers expect to see the total amount, contract terms permitting, by the end of the month.

General purpose homopolymer grades currently sell for 30c. per pound to 34c. per pound, while copolymers are priced over 40c. per pound, depending on grade.

Demand has been going strong since early this summer, with a particularly healthy export market pushing overall growth. Through August, export levels rose 28 percent over last year's volumes, while the do-

mestic market grew 5 percent, for overall market growth of 9 percent. Preliminary SPI figures for September show overall market growth of 10 percent, with production up almost 12 percent over last year's levels. Producers report that demand for October, based on advanced customer bookings, is showing an even higher growth rate.

Supplies are still tight, with producers using almost all available capacity; the average utilization rate is in the high nineties. Inventories have been drawn down significantly since September, when they stood at 30- to 35-day levels; currently, they stand between 25 and 30 days.

With surging demand, all producers report that they are planning debottlenecking projects. Hilmont USA Inc. has just brought 2 new "Spheripol" process plants onstream in Bayport, Tex. and Lake Charles, La. By the end of this quarter, the company plans to restart idled capacity.

POLYSTYRENE — Other major producers of polystyrene have followed American Petrofina's move to raise prices for the plastic, although they have posted later effective dates.

Two weeks ago, Huntsman Chemical Company announced that it would raise prices for crystal and impact grades by 3c. per pound, and those for pre-colored specialty grades by 2c. per pound.

Last week, Dow Chemical Company, followed with similar price increases also to be effective December 1.

Petrofina's increase was slated for November 1. Given the delayed response by other producers, a spokesman says the firm may have to adjust the effective date to reflect competitive market conditions.

Demand for the polymer has been strong this year. Through August, year-to-date sales and production both rose by over 8 percent above last year's volumes. September demand was even higher, with preliminary figures from SPI showing sales up 9 percent and production up 8 percent over 1985 levels.

Producers describe high capacity utilization rates and low inventory levels.

Although all producers are planning future expansions, nothing definite has yet been announced. Polysar Inc. completed its purchase of Monsanto Company's polystyrene business in late September. The new acquisition will boost its production capacity to 860 million pounds per year, making Polysar one of the 3 leading polystyrene producers in North America.

PLASTICS ADDITIVES

METALLIC STEARATES — Producers feel that metallic stearate prices may finally start to firm, following recent increases in tallow and stearic acid prices.

So far, tallow prices have moved up 2 1/2 c. per pound since July, with stearic acid prices following. Prices for stearates have been depressed this year; from April through July, they fell between 5c. and 6c. per pound.

Overcapacity and competitive discounting are still market norms, producers say; selling prices for some calcium stearates (specifically, those involved in PVC compounding) are currently as low as half the list price.

HEAVY CHEMICALS

creases announced throughout September have held.

Stauffer Chemical Company initiated the price increase, raising sulfur dioxide by \$10 per ton, to \$230. Several companies followed. Cominco America Inc. also raised its price, to \$150 per ton, f.o.b. Trail, British Columbia.

"As far as I know, (the increase) has held. I'm not aware of any move to take it off," says one source. Another source claims the increase is "holding very well."

Because of contractual terms, the increase has not yet affected all purchasers. For example, says one source, customers with 30-day price protection were not affected, and won't be until new contracts are written next quarter.

"It's not uncommon for there to be some loose ends to be tied up," notes a source. He adds this is especially common when a product's price has not risen for a long time. Sulfur dioxide's price had last increased in late 1981, according to those surveyed.

METALS & MINERALS

LEAD — Lead's price continues to increase, because of increased battery production and a general supply shortage.

One producer recently established a price of 27 1/2 c. per pound, while another reportedly carries a price between 26 1/2 c. and 27 c. per pound. One month ago, lead's price was 24 1/2 c. per pound, and was as low as 21 c. per pound at the end of Summer.

One reason for the shortage, according to a source, has been a strike at Broken Hill, based in Australia. The strike was recently settled, but the source notes the company will take a while to resume full operations. The strike lasted about five months.

Lead stocks on the London Metal Exchange have dropped significantly, the source continues. Current lead stocks total 19,075 metric tons. The total was about 50,000 metric tons in the middle of May.

Union Carbide

Continued from Page 9

the site, Robert D. Kennedy, president and chief executive officer, said. Related Companies owns, develops, finances, operates, manages or syndicates a total of 320 properties in 213 cities in 36 states.

Union Carbide said that it intends to continue to consider further refunding of the

In addition to the financial benefits of the recapitalization, Union Carbide expects that elimination or modification of the restrictive covenants will increase its operating flexibility and permit the corporation to pursue strategic business opportunities.

Initially, the purchase of the securities will be financed with borrowings under a bank credit agreement plus borrowings under a bridge loan being arranged by First Boston and possibly a private placement of senior, unsecured notes. Consummation of the tender offer is subject to obtaining this financing.

The securities to be acquired are all of the 13 1/4 percent senior notes due 1993, the 14 1/2 percent senior notes due 1998 and the 15 percent senior debentures due 2000. Purchase prices, respectively, will be 115 percent, 121 1/4 percent and 133 percent of the principal amount plus accrued interest.

The tender offer is conditioned upon receipt of consents to Carbide's request for elimination or modification of the restrictive covenants and to the tender of at least 66 percent of the outstanding principal amount of the debt securities.

Chesebrough Sets

Continued from Page 9

are anticipated before the end of the year for the approximately 600 employees who will be affected by sale of the ten plants, Chesebrough-Pond's says.

In commenting on the sale of the Stauffer Seeds business, Mr. Ward indicates that proceeds from the sale of this unit will allow the company to commit more of its resources to its agricultural pesticides business.

Chesebrough-Pond's, headquartered in Westport, Conn., is a diversified producer of health products, personal care and beauty products, foods, clothing, and through its Stauffer Chemical Company acquisition of last year, chemicals. Worldwide sales in 1985 were approximately \$2.8 billion.

Airco Forms Division For Retail Operations

BOC Group, Inc., last week announced the formation of a new division, Airco Retail Operations, naming Keith L. Weir as president of the new division.

"Mr. Weir's appointment," says executive vice president Robert E. Lienhard, "reflects our commitment to the retail operations and our desire to increase revenues and profitability in this important line of business."

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Chemical Finance

Allied-Signal Declares Dividends

Directors of Allied-Signal Inc., Morris Township, N.J., have declared unchanged dividends of 45 cents per share on the common stock, \$22.8130 on the Series A preferred and \$21.5628 on the Series G preferred.

British Oxygen Rating Changed by Greenwell

Greenwell Montagu Research, of London and New York, has changed its share purchase recommendation on BOC Group of Great Britain from "Buy" to "Hold." and has made the same change in its Coalite PLC recommendation. Greenwell's Stuart Wamsley, David Ingles and Judy Shaw cited the recovery in the price of BOC's shares. Just prior to the announcement of a merger pact between Celanese Corporation and Hoechst AG, Greenwell reaffirmed its buy recommendation on Hoechst's shares, and Christopher Willis, of E.F. Hutton & Co., issued a buy recommendation on Celanese. Also, Moody's Investor Services upgraded its ratings on Hoechst's securities.

Damon Corporation Reduces Loss in Fiscal Year

Damon Corporation, Needham Heights, Mass., had a net loss of \$2,618,948 in the fiscal year ended August 31, an improvement over the loss of \$3,227,339 the previous year. Without the impact of its majority-owned subsidiary Damon Biotech, the company would have nearly doubled its earnings to 88 cents per share from 36 cents a year ago.

Eagle-Picher Adopts 'Poison Pill' Defense

Eagle-Picher Industries, Inc. will distribute common share purchase rights on each outstanding share of its common stock that will permit holders to purchase at the then-current exercise price shares of a would-be acquirer having twice the value of the exercise price.

Erbamont's Net Income Rises 12 Percent

Net income of Erbarmont NV, the Italian health care group in which Hercules Incorporated holds an interest, raised its net income in the first nine months to 70.9 billion lire from 63.5 billion a year ago. In US dollars, the increase was 45 percent to \$50.4 million from \$34.9 million. Net sales totaled 883.9 billion lire, down 7 percent from a year ago, but in dollars, sales were up 21 percent to \$632.8 million. Erbarmont's "Adriamycin" continues as the most widely used anti-cancer drug in the United States and Western Europe.

Inspiration Acquires Merrill Lynch Leasing

Inspiration Resources Corporation, a New York-based diversified producer of copper and other metals, has completed the purchase of Merrill Lynch Leasing, Inc., which was wholly owned subsidiary of Merrill Lynch & Co., for approximately \$90 million. The acquired company has been re-named Inspiration Leasing Incorporated and will continue to be headquartered in New York. Reuben F. Richards, chairman of Inspiration Resources, said the acquisition provided the company with a foothold in the financial services industry.

Integrated Genetics Has Its First Profit

Integrated Genetics, Inc., Framingham, Mass., had its first quarterly profit ever in the third quarter, when it earned \$1.7 million, as compared with a loss of \$1.4 million a year earlier. Robert J. Carpenter, president and CEO, said the profit was in large measure related to the company's recently announced joint venture with Amoco Corporation in nucleic acid probe diagnostics.

Millipore's Outlook Called Upbeat

Millipore Incorporated, a strong competitor in the \$9.5 billion market for analysis and purification, will exceed the industry averages in 1987 with revenue growth of 13 percent, according to PaineWebber Inc. The company's 1986 sales are projected at \$109,461,000, up from \$90,700,000 last year, and net income is put at \$9,132,000, versus last year's \$7,851,000.

PaineWebber's analysts note that Millipore is a multinational company, with 41 percent of its sales in the US, 24 percent in Europe, 14 percent in the Pacific and 11 percent miscellaneous.

Moore Medical Has Big Gain in Income

Moore Medical Corporation, New Britain, Conn., a national wholesale distributor of brand-name and generic pharmaceuticals and medical and surgical supplies, had third-quarter sales of \$49,345,000, up 32 percent from \$47,362,000 a year earlier, and net income of \$1,123,000, an increase of 28 percent from last year.

Shell Chemical Has Strong Boosts in Profits

Shell Oil Company, Houston, Tex., had chemical segment earnings of \$54 million in the third quarter and \$201 million in the first nine months, up strongly from \$14 million and \$63 million in the comparable 1986 periods, reports John F. Bookout, president of Shell Oil. Total earnings of Shell oil were \$133 million in the quarter, a decrease of \$233 million from a year ago, and \$628 for the nine months, a decrease of \$385 million. The decline reflected the impact of lower oil prices on exploration and production results.

Ashland to Apply Excess Pension Funds to ESOP

Ashland Oil Inc. will apply excess pension funds to fund a substantial portion of the \$255 million in debt used to establish an employee stock ownership plan. The company also reported the purchase of annuities covering accumulated benefit obligations of most of its pension plans.

Celanese Raises Sales and Income

Celanese Canada Inc. raised its net income to \$2.3 million in the third quarter on net sales of \$78.4 million from \$1.9 million in the same 1986 period. Despite normal seasonal shutdowns in the period, the company's Textile Group continued its strong performance, with both cellulosic and polyester fibers reporting better results than a year ago, the company said.

Robins Reinstates Skadden, Arps as Counsel

A.H. Robins Company will seek reinstatement of the law firm of Skadden, Arps, Slate, Meagher & Flom as counsel in its bankruptcy proceedings as a result of the release of Skadden, Arps by Aetna Life & Casualty from its commitment to Aetna. Aetna is the second largest creditor in the Robins bankruptcy case.

CHEMICAL IMPORTS

US imports of chemicals and related materials are reported in this section by CPM material. Listings include consignee where possible, container, net weight, name of vessel (in parenthesis), port of origin and date of shipment's arrival in New York or the Port of Newark.

US chemical imports/exports are tabulated monthly in the market reports.

A-B

2 AMMO 4 CHLORO 6 NITROPHENOL 68 dms (15650 lbs) (Ming Peace) Kobe, 10/6.

2 AMMO 6 METHOXY BENZOIC ACID 4 dms (1446 lbs) (Ming Peace) Kobe, 10/6.

ABS RESIN FORMULATION Goldmark Plastic Compounds 2720 bgs (151015 lbs) (Ming Peace) Kobe, 10/6.

ACETAMINOPHEN USP MEDICINE DRUG NPS Int'l 200 dms (3500 lbs) (New Jersey Maru) Kobe, 10/6.

ACETAMINOPHEN USP POWDER Byron Chemical 200 dms (28213 lbs) (Ever Linking) Keelung, 10/6.

AGAR AGAR American Shpgg 80 bgs (3466 lbs) (Academy Express) Valparaiso, 10/6.

ALEPHYL FINGER TURMERIC Rue Fwdg 96 bgs (3417 lbs) (Sea Land Pioneer) Rotterdam, 10/6.

ALPHA PICTOLINE Lanza 9 dms (3929 lbs) (Nurnberg Express) Bremen, 10/6.

ALUMINUM ACETYLACETONATE Volscher Consolidation Serv 50 dms (8083 lbs) (Aldebaran) Bremen, 10/6.

AMMONIUM PERSULFATE Mitsubishi Int'l 1440 pkg (10 lbs) (Verrazano Bridge) Tokyo, 10/13.

AMMONIUM SULFATE Atlas Intermodal Transport 1800 bgs (80874 lbs) (Ming Peace) Keelung, 10/6.

AMPHIPHILIC GRAPHITE Asbury Graphite Mills 3040 bgs (310128 lbs) (American Washington) Hong Kong, 10/6.

Standing Enterprises 2100 bgs (117594 lbs) (American Washington) Hong Kong, 10/6.

AWRIS OIL Polaronic Mfg 5 dms (2200 lbs) (Saint Louis) Hain, 10/6.

AXIS 4 DISULFONIC ACID Silvey Shpg 300 mxx (38518 lbs) (Ming Peace) Kobe, 10/6.

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CARNAUBA WAX Strahl & Plach 440 bgs (44484 lbs) (Lloyd Pacifico) Fortaleza, 10/6.

1860 bgs (13353 lbs) (Alison) Fortaleza, 10/11.

CASSEL SODIUM CYANIDE 380 dms (43775 lbs) (Clarence) Rotterdam, 10/6.

CASSIA Daamhouwer 250 bgs (33841 lbs) (Cape Corfu) Padang, 10/6.

CASSIA KORINTJI Otto Gerda 214 bgs (33069 lbs) (American Washington) Singapore, 10/6.

CASSIA K B U S Lines 980 bgs (132276 lbs) (American Washington) Singapore, 10/6.

CASSIA KA Daamhouwer 240 bgs (33598 lbs) (Cape Corfu) Padang, 10/6.

Int'l Brokers 184 bgs (22408 lbs) (Cape Corfu) Padang, 10/6.

CASSIA KB Daamhouwer 400 bgs (55997 lbs) (Cape Corfu) Padang, 10/6.

Louis Furt 170 bgs (22421 lbs) (Cape Corfu) Padang, 10/6.

Ludwig Mueller 410 bgs (56240 lbs) (Cape Corfu) Padang, 10/6.

U S Lines 240 bgs (33069 lbs) (American Washington) Singapore, 10/6.

CASSIA KORINTJI Otto Gerda 500 bgs (66303 lbs) (American Washington) Singapore, 10/6.

CASSIA KORINTJI A Low Furt 235 bgs (33587 lbs) (Cape Corfu) Padang, 10/6.

CASSIA KORINTJI B A Kazani 167 bgs (22414 lbs) (Cape Corfu) Padang, 10/6.

CASSIA VERA Daamhouwer 250 bgs (33370 lbs) (Cape Corfu) Padang, 10/6.

Otto Gerda 494 bgs (66138 lbs) (American Washington) Singapore, 10/6.

CASSIA VERA AA Lebermuth 192 pkg (25049 lbs) (Cape Corfu) Padang, 10/6.

Morris J Colombo 125 ctn (11596 lbs) (Cape Corfu) Padang, 10/6.

William E Martin 39 ctn (3466 lbs) (Cape Corfu) Padang, 10/6.

CASTOR MEAL Pearman Watling 360 bgs (39683 lbs) (Nurnberg Express) Antwerp, 10/6.

CAUSTIC SODA PEARLS Armen Cargo Service 1764 bgs (80973 lbs) (American) Barcelona, 10/14.

CEDARWOOD OIL W R Keating 167 dms (74554 lbs) (American Washington) Hong Kong, 10/6.

CELERY SEED 500 bgs (66138 lbs) (American Washington) Schill Food Products 210 bgs (27778 lbs) (American Washington) Khor Fakkan, 10/6.

CHOLINE BITARTRATE Scantlight 100 mxx (11949 lbs) (Atlantic Star) Rotterdam, 10/6.

Chrom Chemicals 80 pkg (9418 lbs) (Almudena) Bilbao, 10/6.

CHROMIUM OXIDE American Chrome & Chemicals 20 bgs (2275 lbs) (Nurnberg Express) Greenock, 10/6.

CITRIC ACID Omnitran 1090 bgs (79517 lbs) (Jadran Express) Koper, 10/6.

CITRIC ACID ANHYDROUS Helm 396 bgs (39965 lbs) (Helm New York Chemical 396 bgs (39965 lbs) (Jadran Express) Koper, 10/6.

Amalgamated Metals 100 bgs (78319 lbs) (Verrazano Bridge) Kobe, 10/13.

CYANURIC CHLORIDE Degussa 180 dms (43254 lbs) (Nurnberg Express) Antwerp, 10/6.

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WEEK ENDING NOV 7, 1986

This chemical prices section contains spot quotations and/or list prices of suppliers of chemicals and related materials on a New York or other indicated basis. The listings are based on price information obtained from suppliers. Note that posted prices do not necessarily represent levels at which transactions actually may have occurred. They do not represent bid and asked prices, nor a range of prices over the week. Price ranges may represent quotations of different suppliers as well as differences in quantity, quality and location. All matters under this heading are fully covered by copyright.

An index of weekly chemical market reports is on the back cover.

A

Alkyls other, dms.	.....	25.00	27.00
Acetaldehyde, 98% tanks, frt. add. lb.	.....	.37	-
Alc. Prices 1c higher in West.	.....	-	-
Acetaminophen (see N-Acetyl-p-aminophenol)	.....	-	-
Acetanilide, tank, flaked, bgs, 11, 1, o. b.	.....	-	-
works.....	.....	1.29	-
Acetic acid, tank, 11, dms.	.....	.25	-
Acetic anhydride, tanks, dms. lb.	.....	.43½	-
Acetic anhydride prices 1c. higher in West.	.....	-	-
Acetoacetic acid, dms., 11, dms.	.....	1.29	-
Acetoacet-o-aminolide, dms., 11, dms.	.....	2.70	-
Acetoacet-o-chloranilide, dms., 11, dms.	.....	2.85	-
Acetoacet-o-toluidide, dms., 11, dms.	.....	1.58	-
Acetone, tank, 11, dms.	.....	.33	-
Acetone, tanks, dms. E.	.....	.25	-
divd. Zone 2 (Call.)	.....	.27	-
divd. Zone 2 W. of Rockies exclud- ing Cal.	.....	.37	-
Acetonitrile, tanks, frt. add. lb.	.....	.53	54½
Acetophenone (see Phenacetin)	.....	-	-
Acetophenone, fact., tanks, 1, o. b.	.....	.76	.85
works.....	.....	2.15	-
perfume grade, extra, o. b.	.....	2.15	-
N-Acetyl-p-aminophenol, c. 1, 11, works.....	.....	5.95	6.84
Acetylene, tank, 11, dms.	.....	-	-
compressed 12½-lb. bgs. c. 1, 11, frt. extra.....	.....	.98	-
100% 25-lb. bgs., same base	.....	.95½	-
Acetylene tetracarboxide, 1, o. b.	.....	.37	-
works.....	.....	1.28	-
acetylsalicylic acid, USP (see Aspirin)	.....	-	-
Acetylthiobutyl citrate, bulk, 1, o. b.	.....	1.28	-
Acetylthiethyl chloride, bulk, 1, o. b.	.....	2.08	-
works.....	.....	2.62	-
Acrolin, tank, tanks, works.....	.....	1.00	1.08
Acrolein acid, 11, dms.	.....	1.50	-
soln., 100% basis tanks, works.....	.....	.74	.77
Acrylic acid, glacial, reg., tanks.....	.....	.87	-
fact., tanks, frt. add. lb.	.....	.50	-
Acrylonitrile, tanks, works.....	.....	.35½	.45½
Acrylonitrile-butadiene-styrene resin, high-impact, nat., 11, dms.	.....	1.09	1.12
divd.-impact, nat., same base.....	.....	.88	1.01
low-impact, nat., same base.....	.....	.88	1.01
Adipic acid, resin grade, bulk, hopper cars, frt. aquid.....	.....	.57	-
bgs., 11, frt. aquid.....	.....	.58	-
Agar USP, powd., 80 to 100 mesh, dms.	.....	9.50	9.85
Alcohol, sym. C-8 to C-10, tanks, 1, o. b.	.....	.38	-
works.....	.....	.57	.69
C-12 to C-14, tanks, dms.	.....	.57	.69
C-14 to C-15, tanks, dms.	.....	.60	.70
C-16 to C-18, tanks, dms.	.....	1.10	1.20
Aldehyde, C-8, dms.	.....	4.10	5.70
Alcohol, C-8, dms.	.....	1.85	2.30
C-8, dms.	.....	4.30	6.30
C-10, dms.	.....	4.30	5.35
Align (see Sodium alginate).	.....	-	-
Alkal blue, y. flushed, 110-lb. dms.	.....	3.72	3.83
divd.....	.....	-	-
Alkali base prices 1c. higher W. of Rockies.	.....	-	-
Allspice Guatemala / Honduran, lb.	.....	.87	-
Jamaican, bgs.....	.....	1.05	-
Amyl alcohol, tanks, 1, o. b., Bayport, Tex.....	.....	.90	-
Amyl bromide, 800 lbs., 2,000 lbs., or more, works.....	.....	5.50	-
Amyl caproate, 25-lb. o. b.	.....	.39	4.60
Amyl chloride, tanks, 1, o. b., works.....	.....	.45	-
Amyl isochloranilide, 1, o. b.	.....	5.40	6.90
Almond oil, nat. bitter, NF 1, f. p. a.	.....	-	-
swet.....	.....	3.80	3.80
Alum, 11, dms.	.....	1.24	1.60
Alum, 2,000 lbs.	.....	2.00	-
powd., ca.	.....	2.28	2.75
Curacao, kgs.	.....	.20	-
powd., kgs.	.....	.30	-
Alcin, NF.....	.....	6.00	8.70
Alum, ammonium, 11, dms.	.....	35.00	-
c. 1, 11, works.....	.....	35.00	-
FCC powd., flour dms., works 1000s.	.....	55.00	-
Alum, potassium, tech. gran. bgs, c. 1, 11, works.....	.....	35.00	-
FCC powd. 800 dms., works 1000s.	.....	55.00	-

Aluminum acetate, basic, drms, 1.0-l.	works.....	3.25	
Aluminum chloride, anhyd., acid, 500-600 lb. drms, 4.1-l. works, frt. equivd.....	b.....	.53	
"bulk, same basis.....	b.....	.42	
semi-bulk bns, same basis.....	b.....	.58	
Aluminum chloride, coml., acid, 300 lbs. work.....	b.....	12.00	
ret. drms, 4.1. works.....	100 lbs.	15.00	
non-ret. drms, same basis.....	100 lbs.	20.00	
Aluminum formate, dibasic, liq, 8% A.C., 100 lbs. work.....	b.....	.55	
Aluminum hydrazide (see Aluminia, hydrated)			
Aluminum hydroxide, dried, grad, NF, 75-lb. drms, 4.1, 1-l. works.....	b.....	2.75	3.15
Aluminum metal, 99.95% or more, 50-lb. pigs, 30,000 lb. lots, frt. aid.....	b.....	.76	
Aluminum oxide amorphous (see Aluminia, calcined)			
Aluminum paste, leafing grade, std. lining, 2,400 lb. lots, chd.....	b.....	1.40	
lining, extra-line, same basis.....	b.....	1.99	2.00
Aluminum phenolsulfonate, purif., 100-kilo drms, 1-l.....	kilo	6.46	
Aluminum powder, leafing grade, std. lining, 2,400 lb. lots, chd.....	b.....	3.17	
extra line, lining, same basis.....	b.....	4.24	
Aluminum stearate, bgs., 4.1. works.....	b.....	1.05	1.10
Aluminum sulfate, coml., grad, 100 lb. bgs., 4.1. works, frt. equivd.....	b.....	2.12	
basis 17% Al ₂ O ₃ East and Gulf Coast.....	ton	205.00	
West Coast.....	ton	220.80	
liq, tank, N.E. same basis.....	ton	145.00	
frt.-free liq., bgs., 4.1. same basis.....	ton	300.00	
liq, tank, same basis.....	ton	225.00	235
Aluminum sulfate, USP, gran., drms, 100 lbs. work.....	b.....	.87	
Aluminum sulfate, USP, drms, 100 lbs., 4.1-b. works.....	b.....	1.82	
tech, 1-l., same basis.....	b.....	2.18	
p-Aminobenzoic acid, 1,000 kilos or more, 100 lb. lots, 4.1-b. works.....	b.....	9.80	10.00
2-Amino-4-chlorophenol dry and grad, 14,000 lbs. or more, frt. aid, liq.....	b.....	5.79	
Aminoethyl etheraniline, tank, frt. coasg.....	b.....	1.33%	
N-Aminoethyl pyrazole, tank, 1.0-b. frt. coasg.....	b.....	1.05	
2-Amino-2-ethyl-1, 3-propanediol acid, 1-l. 7-b. 3. works.....	b.....	1.82	

Ammonium laurylsulfate, cryst. dma., 24,000 lbs. f.o.b. works.....	5.57
Ammonium lauryl sulfate, tanks, f.o.b. works.....	.29
Ammonium lignin, sulfonated, bulk, f.o.b. Hoquiam, Ore.....	72.00
Ammonium nitrate, dom. fertilizer grade, 33.5% N, bulk, S.E. Ind.....	130.00
Ammonium oxalate, tech. fine gran. 300-lb. dma., f.o.b. S.E. Ind. works.....	1.42
Ammonium pentaborate gran. bgs., c.i., works.....	.75
Ammonium pentaborate powder 20c. per lb. higher.....	
Ammonium persulfate, 225-lb. cts., 24,000 lbs. or more, f.o.b. works.....	.58
55-lb. bgs., same basis.....	.56 1/2
Ammonium phosphates (see Di- and monoammonium phosphates)	
Ammonium silicofluoride, dma. c.i., l.i., works.....	.30%
Ammonium sulfate, ig. gran., bulk, c.i., works.....	80.00
std., com. bulk, f.o.b. works.....	80.00
tech. bgs., c.i., l.i., works.....	108.00
Ammonium sulfate, liq., 40-44% N, 100% basis, frt. equald., ton.....	460.00
Ammonium sulfoxydicarb. (see Ammonium thio-)	
Ammonium thiocyanate, tech., crystal, bgs., c.i., works.....	1.02
tech. soln. 50% tank, frt. equald., ton.....	.93
Ammonium thiosulfate, photographic, 80% tanks, f.o.b. works.....	.13
Ammonium zincory carbonate, soln., U.S.P. dm., bulk.....	.72
Amyl acetate, primary mixed isomers, tanks, dhd.....	.57
Amyl alcohol, primary mixed isomers, tanks, frt. add.....	48 1/2
tert. amyl alcohol, dma. liq., 2.35	
p-tert-Amylnaphthol, bulk, works.....	.81
Amyrill oil, dma.....	11.00
Angelolite, tech., dma.....	10.20
USP dm.....	3.85
Angelolite oil, batch.....	10.00
Aniline, tanks, f.o.b.....	.33
Anisole oil, dma.....	8.90

IFICATIONS

CHEMICAL MARKETPLACE

e./fneat o.p./end point equald./equalized exp./expressed exh./extracted	incl./included indus./industrial kgs./kegs
F./Fahrenheit	l./avoise
f.o.b./free alongside	lb./pound
fem./femoral	l./case carload
f.i.s./free fatty acid	lb./truckload
f.i.f./free from chlorine	liq./liquid
f.o.b./free from prussic acid	m-/mets
f.o.b./free on board	m.a.p./mixed anilin.
f.r./freezing point	point
f.r./freezing point	meg./microgram
g./gramma	mfr./manufacture
g./gallon	min./minimum
g.s./general purpose	moft./mofteen
grd./ground	m.p./melting point
h.p./initial boiling point	
imp./imported	N/nitrogen
	n./normal
	nat./natural
	neut./neutral
	NP/National Formu.
	No./number
	Nom./nominal

NOTE: A unit-ton is 1 percent of 2,000 pounds. The percentage figure of the base constituent in the Reporter gives the price of 2,000 pounds of the

	10% starch granulation, white, 250-lb. drs. c.i., f.o.b.	1.87
	10% starch granulation, white, same basis	2.80
	Freight exclud. shippt. identical quantity over stn. from N.Y., Phila., Midland, Mich., Chicago, Louisville	
	Atropine sulfate, USP, bts.	10.00
35.00	Avocado oil, drms.	4.00
	Azeleic acid, tech., 50-lb. bgs., l.i. c.i., divd.	1.23
1.88	Azo orange, bts.	4.80
	Azo yellow, 10 G. bgs., divd. E. of Rockies	4.40
	Azo G yellow pigment, bgs., same basis	2.45
	B	
	Bactracin, USP, non-sterile, one billion units or more	6.30
90.00	Barbitol, NF, 50-kilo drms., divd.	22.50
70.00	Barbitol-sodium, NF, 50-kilo drms., divd.	23.00
20.00	Barite, dry-grd., Southern, off-color, coarse, bgs., c.i., f.o.b. minnet water-grd., white, bgs., c.i., f.o.b. works	.09
(cyanate).	unbleached, extra-fine, pigment grade, c.i., f.o.b. works	163.00
	Barium carbonate, precip., bulk, c.i. bgs., same basis	25
	photo grade, bgs., same basis	510.00
	Barium chloride, 100-lb. drms., 1-10 dm. lots, works	1.04
	Barium chloride, tech., cryst., bgs., c.i., works	470.00
2.50	Beryllid. drume c.i., same basis	560.00
1.03	Barium chloride, purif., cryst. 400-lb. drms., works	3.78
4.80	Barium monohydrate, 55-lb. bgs., c.i., l.i. f.o.b. works	36.00
	octahydrate, cryst., bgs., same basis	33.00
.35%	Barium nitrate, 100-lb. bgs., l.i. works	32.50
	o-ortho	secs./seconds
	ord./ordinary	sp.g./specific grav.
	os./ounce	ship./shipment
	P/phosphorus	soln./solution
	P/pars	std./standard
	Pao./Paeio	syn./synthetic
	pl./pical	banks/retired tanks
	phos./phosphate	tech./technical
	photo./photographic	tert./tertiary
	pkgs./packages	t./thickness
	powd./powdered	ton./tonnage
	precip./precipitated	1000 pounds of 1000 pounds
	prod./producer	TVA/Temporary volun-
	pt./point	tary allowance
	pulp./pulverized	U.S./United States
	puri./purified	Pharmaceuticals
	redist./redistilled	
	refid./refined	vis./viscosity
	refry./refinery	WMP/Warm melt
	resub./resubmitted	& partner
	ret./returnable	
	SD/specially constituted	W/West
	s.d./single dented	whs./warehouse
	Sec./secondary	W/West
	sec./secondary	W/West

[illegible]

	alid.	lb.	.59
	Butyl chloride, tanks, works.	lb.	.99
.88	Butyl cyclohexyl phthalate, tanks, d.	lb.	1.75
	n-Butyl ether, dms., c.i. l., works.	lb.	.84
	Butyl isodecyl phthalate, tanks, d.	lb.	.35
.70	n-Butylacetate, tanks, f.o.b. works.	lb.	1.68
.89	n-Butyltinum, 12% soln., 1,000-lb. lots or more, cym.	100%	
.95	base, dms.	lb.	16.45
.20	tanks, 3,000-lb. min., 100% base, d.	lb.	14.75
.50	Butyl	lb.	
	Butyl methylacrylate, tanks, d.	lb.	.88
.58	Butyl octyl phthalate, tanks, d.	lb.	.40
	Butyl oleate, dist. dms., c.i. l., works.	lb.	.70
.75	tanks.	lb.	.60
	p-tert-Butylphenol, tanks, works.	lb.	.70
	Butyl phthalate (see Dibutyl phthalate)		
	Butyl stearate, dms., c.i. l., 77 dms. or more.	lb.	.91
	tanks.	lb.	.92
disul.	Butyl stearate tech., l.	lb.	.80
	tanks	lb.	.55
	Butyltinum (see Mon. Di- and Tributylamine)		
	tert-Butylamine, dms., c.i. l., f.o.b. works.	lb.	1.31
	tanks, same basis.	lb.	1.17
	Butylated hydroxytoluene, food grade, dms.	lb.	8.80
	Butylated hydroxytoluene, food, feed grades, c.i. l., d.	lb.	1.24
	Butyric acid, tanks, f.o.b. works.	lb.	1.24
	1,3-Butylene glycol, tank, works.	lb.	.72
.60	Butyraldehyde, tanks, d.	lb.	2.9%
	Butyral acid, tanks, f. alid.	lb.	.44%
	Butyric ether (see Ethyl butyrate)		
	Butyrolactone, tanks, f.o.b. works.	lb.	1.20
.98	n-Butyrolonitrile, dms., c.i. l., 77 dms. or more.	lb.	.93
.90	tanks, d.	lb.	.54
.86			
.43			
.25			
.95			
.26			
.50			
.05			
notated			
.4			

1.00	Calcium gluconate, USP, powdered, lb.	1.80
-	Calcium hydride, lump, dms., 25-100 lbs. or more	10.50
-	Calcium hypochlorite, 100-lb. dms. truckloads ship, E. of Rockies	92.40
-	Calcium hypophosphite, dms, bulk, dms. or more	13.75
-	Calcium lactate, FCC	5.50
-	Calcium lactate, FCC, 100-lb. works	15.75
-	Calcium iodide, 50-klb dms., f.o.b. works	23.65
-	Calcium lactate, NF, powdered, pentahydrate, 25-lb. or more, 250 lbs. or more, f.o.b. works	2.00
-	NF, gran., trihydrate, same basis, lb. special gran., dried grade, same basis	2.10
.42	Calcium magnesia, liq., 4% Ca, c.l., 100 lbs.	2.80
.85	-	-
.75	-	-
-	d-Calcium pantothenate, USP, 100-500-klb lots	12.50
.97	d-Calcium pantothenate, feed grade, f.o.b. frt. aid, 250 klbs or more	6.00
.82	-	-
.58	d-Calcium pantothenate, calcium chloride complex, feed grade, 160 grams per lb., f.o.b., frt. aid	2.75
-	500 lbs or more	228.00
8.85	Calcium phosphate, dibasic, feed grade, 1919-20, f.o.b. c.l., 100 lbs.	62.50
1.30	Calcium phosphate, dibasic, drygrade, USP, bgs., c.l., 100 lbs., frt. aquad.	71.75
1.30	USP, same basis, 100 lbs. dicalciferate grade, same basis	46.00
.38	Calcium phosphate, monobasic, monohydrate, food grade, bgs., c.l., 100 lbs., frt. aquad.	60.50
-	anhyd., food grade, same basis	64.95
-	100 lbs.	62.50
-	tribasic, NF prep., bgs., c.l., frt. aquad.	80.00
-	Calcium propionate, 1000 lbs. or more f.o.b. frt. aid	.07
-	Calcium silicate, hydrated, bgs., c.l., works	1.80
-	Calcium silicate, paint grade (see Wollastonite)	8.50
10.35	Calomel, NF, milk powder, 100-lb. c.l., f.o.b. works	3.63
12.08	Camphene chlorinated, 67-69% (see Xscapephene)	1.90
15.20	Camphor, monobrominated, dms., lbs.	1.80
14.50	Camphor, 100 lbs. or more, 5,000 lbs. or more	2.98
-	USP, powder, 166-lb. dms, 6,000 lbs. lots or more	1.65
7.07	cayn, red, 1-oz. tablets, dms, 1,000-lb. lots or more	2.00
-	Calciferol oil, yellow, 25-lb. dms. lb. white, dms.	2.89
-	spac. grav., 1.070, dms.	17.50
-	Cenargio oil, Indonesian, dms.	18.00
-	Cerussite, white, crude, bgs.	2.10
-	red, pure, bgs.	.60
-	Capric acid, coml. pure, dms.	.80
-	lauric	.60
1.50	Capric aldehyde (aldehyde C-10) dms., c.l.	3.95
-	Caproecarbox monomer, field, bgs., f.o.b. shipping point	.87
-	molten, tank, same basis	.58
4.00	Caryol alcohol ess., 92-95% tank, 400 lbs.	22.00
6.50	Caryol alcohol ess., 92-95% tank, 400 lbs.	39.00
6.80	Caprylic acid, coml. pure, tank	7.75
5.76	Capric acid (see Peppar, red)	11.00
3.00	Capric acid (see Capric acid oleoresin)	17.00
-	Capric acid oleoresin, NF, from dam., 500,000 pungency	9.00
-	1,000,000 pungency	12.00
-	Carexyl oil, Poland, dms.	58.00
-	Carexyl seed, Dutch, dms.	22.00
-	Egyptian, bgs.	2.50
-	Carbon black, lumose, fast extruding (PEF), bulk, c.l., works	23.00
-	bgs., c.l., works	23.00
1.70	general purpose (GPP), bulk, c.l., works	23.00
35.00	high abrasion (HAP), high structure, bulk, c.l., works	23.00

	Cardamom oil, NF, lots.	.. lb.
13.25	Cardamoms, desiccated, Guatemala, .. lb. green, Guatemala, bags, .. lb.	
	Cardamoms, 40, NF, bulk, 100-lb. lots or more, dtd.	10 lb.
	Carnauba wax, Paranaiba, No. 1, yellow, bags, ton lots.	.. lb.
14.50	Cassa, No. 1, yellow, bags, ton lots	.. lb.
	North Country, No. 2, refined, bags, ton lots.	.. lb.
25.65	Carnauba wax, North Country No. 3, centrifuged, bags, ton lots	.. lb.
	North Country, No. 4, refined, bags, ton lots.	.. lb.
	Powdered Carnauba wax, 20 to 100 mesh, 20c per lb. higher.	.. lb.
	b-Carotene, in vegetable oil, 100,000 suspension, 400,000 A units per gram, 33 lbs. or more.	.. lb.
	b-Carotene, liq. in vegetable oil, 500,000 A units per gram, 33 lbs. or more.	.. lb.
	b-Carotene, dry, basic, 10%; 167,000 A units per gram 60-lb. cns.	.. lb.
8.60	d-Carvone, 25-lb. dms., opt.	.. lb.
	d-Carvone, 50-lb. dms., opt.	.. lb.
	Cassara nigra, Brazil, 100-lb. cns.	.. lb.
	Cassia, imp., acid-presc., dry, 30- mesh, Australian, edibles, same basis c.I.F.	.. lb.
	Australian, Indian, same basis, c.I.F.	.. lb.
	Cassia alba, 303 mol. wt., dms., fr. aid, 100% basic.	.. lb.
	Cassia, Korintj "A" bags.	.. lb.
	"E" bags.	.. lb.
	Cassio of China, dms.	.. lb.
	Castor oil, raw, No. 1, Braz. tanks.	.. lb.
	USP 8-6 dms.	.. lb.
	ref'd, dtd., 5-8 dms.	.. lb.
	blown, 5-8 dms.	.. lb.
	dehydrated, bodied, tanks.	.. lb.
	dehydrated, unbodied, tanks.	.. lb.
	Castor oil, acids dehydrated, dms.	.. lb.
	tricholeic acid.	.. lb.
	Castor pomace, bag, container load, f.o.b. Miami, Fla.	.. ton
.55	Castoreum, natl., cns.	.. lb.
	opt.	.. lb.
	Castrolol, CP, 45-50 dms., 50-239 dms., f.o.b.	.. lb.
	tech. bags, f.o.b., same basis.	.. lb.
	Cassia pistata (see Peppercorn, dtd.).	.. lb.
	Cassia seeds (see Cassia, dtd.).	.. lb.
3.70	Cedarleaf oil, dms.	.. lb.
	Cedarwood oil, Texas, dms., cns.	.. lb.
	Virginia.	.. lb.
	Cedrol, pressed dms.	.. lb.
	Cedryl acetate, dist., dms.	.. lb.
	Cedryl seed, Indian, bags.	.. lb.
	Cedryl seed oil.	.. lb.
	Cedryl acetate, powder, bags, 1-lb. divd. E.	.. lb.
2.85	Cellulosic acetate butyrate, powder, 17% butyl content, bags, 1-lb. divd. E.	.. lb.
	58% butyl content.	.. lb.
	50% butyl content, bags, divd. E.	.. lb.
	65% butyl content, bags, divd. E.	.. lb.
2.05	Cellulose gum, pure, high vis., bags, 20-60-lb. lots, same basis, f.o.b. Hopewell, Va.	.. lb.
5.35	Cellulose gum, med. vis., bags, c.I., or attd. low or medium vis., bags, c.I., f.o.b. Hopewell, Va.	.. lb.
	Cellulose gum, 50-lb. lots.	.. lb.
	Carum hydrosol 90% CaCO_3 , dms., works.	.. lb.
	77% CaCO_3 , dms., works.	.. lb.
	Carum oil, optional grade, bags, 50- lb. lots or more, divd. E.	.. lb.
	Cetylalcohol, NF, cns., c.I., divd. E. R. Chalk (see Calcium carbonate).	.. lb.
	Chamomile flowers, Hungarian, cs.	.. lb.
	Roman, cs.	.. lb.
	Egyptian, whole.	.. lb.
18.00	Chamomile oil, blue, Egyptian.	.. lb.
25.00	blue, Hungarian.	.. lb.
.69	Chenopodium, 50-lb. cns.	.. lb.
	Chicago add, dry, 1-lb., fr. aid.	.. lb.
	Chiles (see Pepper, ref.).	.. lb.
	Chloride amorphous, tech., dms., 1-lb. works.	.. lb.
	Chlorinated paraffin, 50-lb. cns., bulk, divd., Zone 1.	.. lb.
	50% phosgene, same basis.	.. lb.
	50% phosgene, same basis.	.. lb.
	50% chlorine, same basis.	.. lb.

0.00	-
3.00	-
8.25	9.75
35.00	140.00
1.95	2.05
1.75	1.90
1.65	1.85
1.10	-
1.30	1.45
32.75	-
40.75	-
28.85	-
48.00	-
7.00	7.25
1.90	-
1.45	-
1.385	-
3.70	-
1.05	1.10
.88	.85
18.50	-
.31	.33
.74	-
.78	-
.76	-
.74	-
.66	-
1.10	-
.79%	.83
54.00	-
19.00	35.00
11.00	-
7.93	-
3.71	-
17.50	-
1.75	2.60
4.75	-
5.25	-
4.25	5.30
.48	-
67.00	-
1.90	-
1.75	-
1.58	-
1.51	-
1.83	-
1.60	1.70
1.90	1.90
1.35	-
5.40	-
4.20	1.80
1.85	1.90
.85%	1.27
4.25	4.50
4.54	-
2.70	3.00
18.00	-
10.90	-
15.00	-
33.50	-
1.50	-
.45	.45%
.48	.47%
.49%	.48%

ABBREVIATIONS

THE TERMINOLOGY OF THE CHEMICAL MARKETPLACE

[illegible]

Incl./Included	o./ortho	secs./seconds
Indust./Industrial	ord./ordinary	sp.g./specific gravity
Kgs./Kega	oz./ounce	spr./sprayer
L./Lavois	P./phosphorus	stn./station
Lb./pound	P./para	std./standard
Lbs./less carload	Pee./pectin	syn./synthetic
Lt.L./less truckload	Pf./proof	tanks/nitrocell tanks
M./meta	phos./phosphata	tech./technical
m/mq.	photo./photographic	terr./factory
m.p./mized aniline	pigs./packaging	TG/TGA
mg./point	powd./powdered	(T) refers to short cut
msg./microgram	precip./precipitated	of 2,000 pounds
mfr./manufacturers	prod./producer	TVAs/nitrogen vol%
min./minimum	pl./ply	v.v./volume
mol./molehen	puri./purified	Lw./Rankings
m.p./melting point	redist./redistilled	USP United States Pharmacopoeia
N./nitrogen	refd./refined	
n/inorgn	refr./refractory	vla./viscosity
net./netural	resub./re-submitted	v/v./volume ratio
neu./neutra	ret./returnable	& pints/lb
NF/National Formulary	S.D./specially denatured	
No./number	S.D./single distilled	W/wes
Norm./normal	SE/Southwest	w/wes./percentage
	sec./secondary	w.w./water-soluble

of over 2,000 pounds of the basic constituents or other standard of the
 constituent multiplied by the unit-conversion factor shown in Chemical

[illegible]

	crane. grow, 1,070. dms.	2,85	2,85	17% butyl content, bgs.	11.
	Caprae oil, Indonesians, dms.	1,10		butyl content, bgs.	11.
	Cassia seed, West, crude, lbs.	1,90		58% butyl content, bgs. and E.	1b.
	lead, pure, bgs.	2,10		60% butyl content, bgs. and E.	1b.
	Capric acid, capr. pure, dms.	1b.	80. 85	60% butyl content, bgs. and E.	1b.
	Capric acid, capr. pure, dms.	1b.	80. 85	Celulose from pure vinyl bgs.	1b.
1.50	Carpas (celulose) polyethylene	1b.	60. 65	24,000 lb. lots or more works	1b.
	dms.	3.95	5.35	1.0.b. Hopewell, Va.	1b.
	Caproecetone monomer, flake, bgs., 11.			acid, low or medium vis.	bgs., 11.
	1.0.b. shipping point.	87		11.0.b. Hopewell, Va.	1b.
	carbon, tacks, same as 11.	88		Carium concentrate CaO , 50 lbs.	1b.
4.00	Capryl alcohol ace. 92-98% tacks.			Carium hydroxide 80% CaO dms.	1b.
4.50	1.0.b. works.	1b.		works.	1b.
	Caprylic acid, capr. pure tacks.	734		77% CaO dms., workable	1b.
5.80	Capsicum (see Pepper).			Carum odors, optical grade, bgs.	60.
6.30	Capsicum oil, (same as capsaicin oleoresin).			11. lots or more, acid.	1b.
	Capsicum oleoresin, NF, from dom.			Cetyl alcohol, NF, ace, 11. divd. E. b.	1b.
6.75	pepper, dom.	11.00		Chalk (see Calcium carbonate).	1b.
6.40	NF from African pepper, dms.			Chamomile flowers, Hungarian, ace.	1b.
	NF, 100,000 pungency	9.00		Roman, ca.	1b.
	1,000,000 pungency	17.00	18.00	Cinnamon, Ceylon.	1b.
	Caraway oil, Poland, dms.	22.00	25.00	Cypripedium oil, blue, Egyptian.	1b.
	Caraway seed, Dutch, bgs.	1b.	58. 59	blue, Hungarian.	1b.
	Carbonyl bgs.	80	85	Chenopodium oil, NF, ace.	1b.
	Carbonyl bgs.	80	85	Chicoas seed dry, bgs. and E.	1b.
	Carbonyl bgs., lime, fast extruding			Chiles (see Pepper), red.	1b.
	(PEB) bulk, c.l. works.	2125		Chloroacetic anhydride, tech., dms., 11.	1b.
	bgs., c.l. works.	2425		works.	1b.
1.70	general purpose (GPP) bulk, c.l.	2075		Chlorinated paraffin, 11. divd. E. b.	1b.
35.00	bgs., c.l. works.	2375		bulk, divd., Zone 1	1b.
	high abrasion (HAP), high structure.	2500		50% phthalic, same base.	1b.
				70% phthalic, same base.	1b.

1.75	-	-
1.69	-	-
1.81	-	-
1.83	-	-
1.80	1.70	-
1.80	1.80	-
1.85	-	-
5.40	-	-
4.20	1.80	-
1.85	1.80	-
5.80½	1.27	-
4.25	4.50	-
4.94	-	-
2.70	3.00	-
15.00	-	-
0.80	-	-
3.00	-	-
3.00	-	-
1.30	-	-
45	46½	-
48	47½	-
49½	49½	-

CHEMICAL PRICES

WEEK ENDING NOV 7, 1986

Carbon Black, low structure, bulk, c.i.	.240	
works, .lb.	.270	
bags, works, .lb.		
Intermediate superabrasion (SAF), .lb.	.26	
bgs, c.i. works, .lb.	.28	
superabrasion (SAF), bulk, c.i., works, .lb.	.31	
bgs, c.i. works, .lb.	.4060	
semi-reinforcing (SRF), bulk, c.i., works, .lb.	.210	
bgs, c.i. works, .lb.	.240	
Carbon black, thermal, medium, bgs, c.i. works, .lb.	.30	
bulk, works, .lb.	.32	
Carbon black, fine, f.a.b., same as refiners, .lbs.	10.50	12.50
f.o.b. W. coast refiners, .bbbs.	10.50	12.50
Carborundum, fine, f.o.b. works ton	420.00	
Carborundum, structural, .lb.		
dms, c.i., frt. add., .lb.	.35	
tech, dms, c.i., frt. add., .lb.	.31	
tank transport (min. 4,000 gals.) per car, .lb.	.24	
Carboxymethyl cellulose (see CMC)		
Cardamom oil NF, bots, .lb.	80.00	
Cardamoms, decoro, Guatemalan, .lb.	3.00	
Cardamoms, decoro, Mexican, .lb.	6.25	
Carmine, No. 40, NF, bot, 100-lb. lots or more, divd., .lb.	133.00	140.00
Carnauba wax, Parahyba, No. 1, yellow, bgs, ton lots, .lb.	1.95	2.00
Cesara, No. 1, yellow bgs, ton lots, .lb.	1.75	1.80
North Country, No. 2, refined, bgs, ton lots, .lb.	1.55	1.60
Carnauba wax, No. 3, refined, bgs, centifuged, bgs, ton lots, .lb.	1.10	
North Country, No. 3, refined, bgs, ton lots, .lb.	1.30	1.40
Powdered carnuba wax, 20-100 mesh, 20c per lb. higher, suspension, 400,000 A units per gram, 33 lbs., .lb.	32.75	
b-Carotene, in vegetable oil, 500,000 A units per gram, 33 lbs. or more, .lb.	40.75	
b-Carotene dry, bases, 100,000 A units per gram 50-lb. can, lb.	26.85	
d-Carvone, 25-lb. cans, syn., .lb.	48.00	
c-Carvone, .lb.	7.00	
Cassia sagraada bark, bulk, .lb.	1.00	7.00
Caslin, iron, acid, 90% grade, same basis, A.U.I., .lb.	1.46	
Australian, Indian, same basis, V.M.T., .lb.	1.365	
Cassaia acid, 303 mol. wt., dms., frt. add., 100% bags, .lb.	3.70	
Cassie, Korff's "A" base, .lb.	.05	1.00
Cassie, Korff's "B" base, .lb.	.08	
Cassio, iron, acid, 90% grade, same basis, A.U.I., .lb.	1.850	
Caster oil, raw, No. 1, Brnz. tanks, .lb.	.31	
USP 5-B dms., .lb.		
refl. feed, 5-B dms., .lb.	.76	
blom, dms., .lb.	.76	
dehydrated, bodied, tanks, .lb.	.74	
dehydrated, unbodied, tanks, .lb.	.65	
Caster oil, acids dehydrated, dms., ton lots, .lb.	1.10	
Caster pomeze, bgs., container load, L.A., Miami, Fla., .ton	164.00	
Castoreum, natl. obs., .lb.	18.00	35.00
Catalpa, .lb.	11.00	
Catalpa, CP, 45-50 dms., 50-239 dms., L.O.B., .lb.	7.93	
tech, bgs, L.L., same basis, .lb.	3.71	
Caulis potash (see Potash) Caulis soda (see Soda, caustic)		
Cedarleaf oil, .lb.	17.50	
Cedarwood oil, Texas, dms., ans., .lb.	1.75	2.50
Cedrol, prime dms., .lb.	5.25	
Cedryl acetate, dist., dms., .lb.	4.25	5.50
Celery seed, Indian, bgs., .lb.	.46	
Celery seed oil, .lb.	87.00	
Celulosic acetate, powd., bgs., U.I., divd. E., .lb.	1.30	
Celulosic acetate butyrate, powder, 175 pure content, bgs., divd. E., divd. E., .lb.	1.75	
98% butyl content, bgs., divd. E., .lb.	1.59	
90% butyl content, bgs., divd. E., .lb.	1.61	
90% butyl content, bgs., divd. E., .lb.	1.63	
Celulosic gum, pure, high vis., bgs., 20,000-lb. lots or more works, L.K. Hopewell, Va., .lb.	1.80	1.70
etc., low vis., bgs., divd. E., U.I., L.K. Hopewell, Va., .lb.	1.80	1.80
Calcium concentrate CaO, 50 lbs., .lb.	1.35	
Calcium hydroxide 90% Ca(OH) ₂ , dms., ton lots, .lb.	5.40	
77% Ca(OH) ₂ , dms., works, .lb.	4.20	1.00
Calcium oxide, optical grade, bgs., 50- lb. lots or more, divd. E., .lb.	1.85	1.90
Cetyl alcohol, extra pure, divd. E., Chalk (see Calcium carbonate).	88 1/2	
Chamomile flowers, Hungarian, cs., .lb.	4.25	4.50
Roman, cs., .lb.	4.95	
Chamomile oil, blue, Egyptian, .lb.	2.70	3.00
blue, Hungarian, .lb.	545.00	
Chenopodium oil, NF, ans., .lb.	370.00	
Chenopodium dry leaf, frt. add., .lb.	13.00	
Chiles (see Pepper, red)		
Chloroacetylenide, tech., dms., U.I., works, .lb.	1.30	
Chlorinated paraffin, 50% chlorine, bulk, divd. Zone I, .lb.	.45	
50% chlorine, same basis, .lb.	.46	
50% chlorine, same basis, .lb.	.48 1/2	

Chlorinated paraffin, Zone 2 prices are 1c. per lb. higher and

38 CHEMICAL MARKETING JOURNAL

REPORTER November 10 1966

1. DDVP (dimethyl dichlorovinyl phosphate).

tanks, works.....

... kilo	43.00	45.25	Ferri
... lb			

chloride, 42 Be. photo grade: 9 10

l.o.b. works	a.	50	-		
re, same basis	b.	44	-		Hydr

hydrochloric acid, anhyd. (see Hydrogen chloride).

WEEK ENDING NOV 7, 1986

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CMR MARKETPLACE

CHEMICAL MARKETING REPORTER'S CLASSIFIED ADVERTISING SECTION

COPY DEADLINE: Wednesday Noon preceding date of publication.

RATES/Classified Ad: \$57.75 for 36 words or less; \$9.75 for each additional six words or fraction. No display. First two words printed in bold face type.

Non-display advertisements payable in advance, except for contract customers (not subject to agency commission).

REPLIES: Send replies to classified ads with box numbers to **CHEMICAL MARKETING REPORTER**, 100 Church St., New York, NY 10007-2694.

INFORMATION: For further classified advertising information, call 212/732-8820.

CHEMICALS OFFERED

Calcium Hypochlorite, 65%, granular. No EPA Registration number, must be used industrially. Great prices. Sales reps with contacts or end-user inquiries welcome. All Chemical Industries, 4001 Newbury Rd., E-3, Gainesville, FL 32607. (804) 378-9696/(800) 523-0450.

Glycerine natural USP 99.5 — new drums — low flow prices regular supply — available from New Jersey/Baltimore/Houston/West Coast warehouses. Inquire now. Write C.M.R., Box No. 728.

Electronic Grade: Sulfuric Acid, Nitric Acid, Hydrochloric Acid, Hydrogen Peroxide, Methanol, Acetone, Standard Packaging. Call 213-675-4424 or 213-538-2117.

CHEMICALS WANTED

Active Buyer of surplus chemicals, pigments, dyes, resins, waxes, plastics etc. Call toll free 1-800-531-3337 or 617-829-6738. Dear Polymer Corp. Chemical Div., 17 Industrial Drive, Holden, MA 01520.

All Surplus — Chemicals — Resins — Oils — Colors — Solvents — Plastics — Intermediates — Inorganic — bought by Rambach Chemical Co., Inc. 52 Vesey Street, P.O. Box 5187, Newark, NJ 07105. Phone: (201) 589-7774.

Cash For your surplus chemicals, resins, colors, pharmaceuticals, dyes, other raw materials, by products, wastes, residues and off-spec materials. Morgan Chemicals Inc., 5500 Main Street, Williamsport, NY 14221 (716) 632-4000; Telex 9-19133.

Realize Top Value from the sale of your surplus Chemicals. We buy surplus chemicals, Plastics, Resins, Waxes, etc. Dear Chemical Co., P.O. Box 494, Fair Lawn, NJ 07410. Phone: (201) 781-2448; Telex: 13-0434.

Resyn Corp. will buy your surplus chemicals, resins and resin raw materials — prime or off-specification. Resyn Corp., P.O. Box 83, 1540 W. Blanche St., Linden, NJ 07036. (201) 662-8737.

We Buy Surplus chemicals, colors, resins, solvents, plasticizers by-products, etc. Over 50 years of service to industry. Eastern Chemical & Chemical Co., Inc. 85 Roosevelt Ave., Dept. C.P.O. Box 1028, Valley Stream, N.Y. 11582. (516) 91-4445.

Your Surplus is our Inventory. We buy all chemicals, pigments, resins, solvents, plasticizers and pharmaceuticals. Prompt inspection and cash terms on each offering. Pyramid Chemical Sales Co., 1035 Virginia Drive, Fort Washington, PA 19034. (215) 542-9292.

EQUIPMENT OFFERED

Pilot Plant for sale — Westlake KA 25 as centrifuge, JH Day 54 cu ft jacketed ribbon blender, Alsteele (Enstolet) 15 x 21 granulator, Derrick 3 screen dewatering vibrator, mayo pumps, ss screw conveyors, tanks, plus other process equipment. Loc. Mass (617) 882-6407.

Process Equipment for sale. Baker-Parkins Turco-Pear centrifuge 31 lbs. 510000 capacity with Hydro-Mech pusher for unloading. Automatic fluid bed dryer 316SS, 200 lbs. capacity. Baltimore air coil cooling tower 125 ton capacity. All equipment is in excellent working condition. Equipment is being sold below used equipment cost. Call 818-767-2038.

EQUIPMENT WANTED

Pilot plant used glass-lined reactors in the range of 20-50 gallons. Call or write Dave McAvley at Specialty Organics, Inc., 5263 N. Fourth St., Irwindale, CA 91706. (818) 982-2008.

POSITIONS OFFERED

Chemical Sales Exp'd salesperson required by long est'd chemical marketing company. Applicants should have good background in organic chemistry, 5-10 years sales experience in specialty chemical field. Headquarters in NJ. Territory coverage southeast U.S. Developing new product lines. Please send resume only to: Donald M. Kell, Sr. V.P. Industrial Chemicals, Falek Chemical Company, 2125 Center Ave., Ft. Lee, NJ 07024.

SERVICES OFFERED

Custom Distillation services. Inland Vacuum Industries, Inc. has Wood Fin Exchangers capable of turning distillations at 0.55mm to temperatures of 400°C. We welcome inquiries on this service. 1-800-862-8089.

Custom solids packaging and distribution in the port of Mobile. Multi-wall bags, bulk bags, drums and bulk. Screening, repackaging and warehousing. Rat and truck facilities. Contact: Philip Hahn, SEAPAC, Bldg. 14A, Brookley Complex, Mobile, AL 36615, 205/433-3541.

SERVICES OFFERED

Mexican Facilities, Custom Distillation, Recycling, Manufacturing, Pilot Operation, Packaging and Distributing for U.S. and Mexican Markets. R&D facilities, extremely low energy manufacturing costs. Write D.L.C., P.O. Box 1589, Hawthorne, Ca., 90251.

Water Bill Veto

Continued from Page 7

dential signature on the bill — passed in the final days of the 99th Congress — would have been seen as President Reagan's "first gesture of cooperation" with the new Democratic Congress.

Sen. Moynihan said he will reintroduce the same legislation when Congress convenes in January and "we'll pass it in a spirit of confrontation" if necessary.

Rep. James Howard (D-N.J.), a chief sponsor of the legislation in the House, said he would reintroduce the bill "word for word on the first day of the next Congress," and predicted prompt passage.

"If he was dissatisfied with the cost, then he should just wait to see what the Democratic Congress comes up with next year," said Sen. Robert T. Stafford (R-Vt.).

"The President was obviously acting on very bad advice in vetoing this bill," he added. "Every state in the union wants to see a continuation of the Clean Water Act and I'm sure all the new Republican governors will be clamoring for passage as well as all the other governors."

In addition to providing money for construction of local sewage treatment systems, the bill would have initiated a \$400 million program to control fertilizer and pesticide runoff from farmlands, tightened controls on toxic pollutants, and provided funding for various other activities to clean up the nation's waters.

Sources say the President was urged to veto the bill by OMB Director James Miller, White House chief of staff Donald Regan and members of the White House domestic policy staff.

Their advice was based on the amounts that would have been appropriated for sewage treatment plants and the continuation of the Federal grant program beyond 1990.

But the President also noted the bill authorizes some new programs for \$500 million "that my administration has strongly opposed." Among them, he said, is "reinstatement of a Federal assistance program to pay for local plans to control diffuse sources of pollution."

"I must emphasize that my action will have no impact on the conduct of water pollution control programs" already in place, President Reagan added.

"It is astounding that the President would veto legislation that is at the top of the pub-

lic's agenda," said Sharon Newsome, director of legislative affairs for the National Wildlife Federation. "Now all Americans will have to wait for cleaner water."

President Reagan, who reported "remarkable progress in the massive national cleanup effort," said the bill's \$18 billion price tag would increase outlays by as much as \$10 billion over the projections of his 1987 budget.

In working with Congress next year, the President said he would support several programmatic changes made by the bill, including expanded Federal enforcement authorities and an easing of the regulatory and financial burden on cities in dealing with stormwater discharges.

Dow's Orefice

Continued from Page 5

grades rather than commodities. It was noted at the meeting that a 3-cent-per-pound advance in polystyrene prices on October 1 is holding, and that a further advance of 2 cents has been posted for the first of December.

The 60-year-old Dow CEO noted that under company by-laws he will be retiring as president and CEO toward the end of next year, and that the board has asked him to stay on as chairman, without an operating title.

Mr. Orefice said that his successor would be one of the executives on the podium with him. These include Hunter Henry and Robert Kell, executive vice-presidents; Frank Popoff, executive vice-president; and Joseph Temple, senior vice-president.

Mr. Kell, who has financial and planning responsibilities, said that there was no immediate need for new basic chemical facilities, despite the high operating rates. Incremental expansion of existing plants would take care of foreseeable needs. However, another grass roots plant would be built "within the next five years," he said.

Mr. Henry reported that supplies of caustic soda are finally coming into balance, and that prices are edging up. He said that Dow's overall research and development budget is running at \$800 million "to keep the company on the leading edge of process technology."

Mr. Popoff said that Dow's operations in Japan are prospering. Two years ago, Asahi-Dow, a basic chemical joint venture, was dissolved and Dow has since replaced it with wholly-owned operations.

Mr. Popoff also indicated that the company has been able to keep most of the benefits from lower oil prices, owing to the improved supply balances in upgraded products and what has been a very depressed state of product pricing.

One indication of tightening supplies of basic chemical, he said, is the withdrawal of competitors from certain foreign markets. Dow has been picking up the market share that capacity-tight producers have abandoned, he said.

Mr. Orefice noted that the Texize operation has become a \$550 million business, led

by its heavy-duty cleaner, and Dow is taking it into countries around the world.

According to Mr. Orefice, polystyrene, Dow-Corning Corporation (jointly owned venture with Corning Glass Works) and other world markets have been consistently early indicators of the state of the world economy. All three of these indicators are improving, he said.

Grace Aids Titanic Search

Buoyancy materials developed by W.R. Grace & Co. assisted researchers in the discovery and subsequent exploration of the Titanic. Both the manned submarine Alvin and the self-propelled robot "Jason, Jr." contain specially designed one-cubic-foot blocks of Grace's syntactic foam that helped to support the underwater submersibles at depths of up to 12,500 feet.

Grace's foam provides both structural strength and buoyancy to help offset the weight of heavy metal and electrical parts. Sandwiched between the outer fiberglass shell and the pressure hull, the foam blocks keep the small sub from dropping like a stone to the ocean floor. They also help the sub to maintain its balance.

As heavier equipment was required to delve to greater ocean depths, researchers at the Woods Hole Oceanographic Institute needed a buoyant material for their research vessels. In October, 1980, the Alvin began to exceed depths of 13,000 feet, but it required larger and heavier batteries.

The solution to the problem of bulky equipment was provided by Grace's "Eccofloat" material. It is a special epoxy resin formulation containing millions of air-filled glass balloons that can be made small enough to thousands to fit in the palm of your hand — each one can be as large as a baseball. The balloons prevent the sub (or any structure) from sinking.

Although the Alvin is designed to withstand depths of 14,000 feet, the synthetic foam can take pressure of up to 20,000 feet. According to Dr. Robert D. Ballard, leader of the Titanic exploration, "Over 50 percent of the vehicle is syntactic foam without which we could not dive to those depths."

Undersea exploration is just one of many uses for Grace's "Eccofloat" product, which will be used by the entire fleet of submersibles being developed by the Woods Hole Oceanographic Institution in Massachusetts.

Grace's Emerson & Cuming unit of Co. Boston, Massachusetts, has been manufacturing and marketing offshore buoyancy systems since 1968 and is the world leader in such material.

Although Grace provides syntactic materials for undersea exploration, the company's line of flotation products was originally devised to provide buoyancy to offshore drilling rigs.

CHEMICAL IMPORTS

Continued from Page 35

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THYME LEAVES William E Martin 280 bgs (30884 lbs) (Almudena) Valencia, 10/4.
TITANIUM DIOXIDE AWW Kyle 720 bgs (41072 lbs) (Sea Land) Porton Agelaris, 10/8.
N.L. Ind 800 bgs (41072 lbs) (Clarence) Rotterdam, 10/9.
N.L. Ind Chemical 1800 bgs (27177 lbs) (Dart Americana) Antwerp, 10/8.
WTC Air Freight 4800 bgs (207453 lbs) (Clarence) Rotterdam, 10/9.
Huxley Raw Material 780 bgs (36690 lbs) (Wladyslaw Sikorski) Bremerhaven, 10/14.
Huxley Raw Material 780 bgs (36690 lbs) (Wladyslaw Sikorski) Bremerhaven, 10/14.
D.L. Lukens 640 bgs (33201 lbs) (Ever Superb) Loughorn, 10/9.
Sumitomo 60 dms (36046 lbs) (Ever Linking) Osaka, 10/8.
N.L. Ind 1800 bgs (82688 lbs) (Atlantic Star) Rotterdam, 10/8.
N.L. Ind 2400 bgs (123812 lbs) (Sea Land Express) Rotterdam, 10/8.
TOLUENE Amerade Hess 78023 bbl (20862000 lbs) (Baltimore) St. Croix, 10/7.
TRIALLYL ISOCYANURATE TALC Carrano & O'Neill Ship 50 dms (24581 lbs) (Ming Peace) Yokohama, 10/8.
TRICHLOROISOCYANURIC ACID 250 dms (78814 lbs) (Ever Linking) Osaka, 10/8.
TRICHLOROACETIC ACID TECHN 150 dms (16158 lbs) (Nurnberg Express) Bremerhaven, 10/8.
TRIMETHYLENE CHLOROBROMIDE Ariel Maritime Group 18 dms (8894 lbs) (Nurnberg Express) Antwerp, 10/8.
ULTRAMARINE BLUE Hilton Davis Chemical 400 bgs (22597 lbs) (Clarence) Rotterdam, 10/8.
Elco Ship 880 bgs (41546 lbs) (Gine S) Felixstowe, 10/8.
Whitaker Clark & Daniels 720 bgs (41310 lbs) (Sea Land Express) Rotterdam, 10/8.
UREA FORMALDEHYDE MOULD COMPOUND 855 mix 1840 bgs (80388 lbs) (Zim New York) Haifa, 10/8.
WAX Ciba Gely 20 dms (9812 lbs) (Nurnberg Express) Hamburg, 10/8.
YELLOW ANTHROSON 84 dms (5185 lbs) (Clarence) Rotterdam, 10/8.
YELLOW PHENOLPHTHALEIN PHENAX Caros Chemicals 59 dms (12883 lbs) (Clarence) Rotterdam, 10/8.
ZINC PYRITHIONE 157 dms (44740 lbs) (Aldebaran) Bremerhaven, 10/8.
ZINCURUM CARBONATE PASTE F B Vandegrift 180 dms (41887 lbs) (Gine S) Felixstowe, 10/10.
ZINCURUM OXIDE Mediterranean Ship 28 bbl (78704 lbs) (Gine S) Antwerp, 10/10.

CHEMICAL PROFILE

ETHANOLAMINES

November 10, 1986

SUPPLY

PRODUCER	CAPACITY*
Dow, Plaquemine, La.	150
ICI, Bayport, Tex.	40
Texaco, Port Neches, Tex.	240
Union Carbide, Seadrift, Tex.	250
Total	680

*Millions of pounds per year of mono-, di-, and triethanolamines. Production is split almost evenly among the three. Dow's Midland, Mich. plant, rated at 25-million pounds per year, currently produces isopropanolamines. Olin placed its 40-million pound Brandenburg, Ky. facility on stand-by last July, but continues to market material. Profile last published 11/21/83; this revision 11/10/86.

DEMAND

1985: 540 million pounds; 1986: 525 million pounds; 1990: 580 million pounds (includes exports).

GROWTH

Historical (1976-1985): 7.1 percent per year; future: 2.5 percent per year through 1990.

PRICE

Historical (1952-1986): High, 52 1/2¢. per pound (MEA); 53 1/2¢. per pound (DEA) 54 1/2¢. per pound (TEA-85 percent), tanks, f.t. alid.; low, 13¢. per pound (MEA); 12 1/2¢. per pound (DEA); 16¢. per pound (TEA-85 percent), same basis. Current: 33¢. per pound (MEA); 34¢. per pound (DEA); 35¢. per pound (TEA-85 percent), same basis.

USES

Domestic, 65 percent (detergents, including textiles, personal care products, and other surfactants, 35 percent; natural gas conditioning and petroleum use, 30 percent; metal working, 12 percent; textiles, 12 percent, other, including agricultural intermediate and cement grinding aids, 11 percent); exports, 35 percent.

STRENGTH

Exports have been posting large, steady growth for the past several years. This year's surge from 170 million pounds to a projected 183 million pounds can be partly attributed to the weaker dollar, and increased demand from Europe. Domestic surfactant applications, particularly in liquid laundry detergents, and personal care products are performing well.

WEAKNESS

The depressed oil and gas industry has caused a very large cutback in ethanolamine sales for treating sour gas. Not only is volume down, but gas producers are concentrating production on more economical sweet gas, thereby doubly reducing ethanolamine demand. Prices, dragged down by tumbling ethylene values, have fallen 4¢. per pound since January 1, 1986. The metal-working business has been hurt by widespread industry rationalizations, and textiles have been battered by imports.

OUTLOOK

The surfactants business is projected to grow well above the GNP through the decade, but there's no telling when the natural gas business will rebound. Olin's idling of its Brandenburg plant has improved the domestic supply-demand balance, and Carbide has been, and will continue, to increase its internal demand for monoethanolamines for the production of ethylenamines.

BOOKSHELF

When Markets Shake

This book* explores a problem facing today's top managers — how to manage effectively when traditional ground rules crumble and fall. The author, a Harvard Business School professor who for more than twenty years has researched managerial responses to changing strategic and economic forces, takes the petrochemical industry as his model and deals with that industry worldwide.

Concentrating on the relationship of major corporations with their governments, the book correlates management responses to the changing economic climate and the effects of national policy and regulations on its decisions.

The volume begins with an overview of the petrochemical industry of the 1980's and plunged into an economic crevasse of excess capacity and severe losses (with no expected decline in competition). Common developments and patterns are drawn from all industrialized countries, highlighting similarities which transcend national boundaries.

Utilizing these elements, managerial strategies are extracted which it is felt have been used successfully in dealing not only with a changing marketplace, but also with the restrictions of the political environment.

Following this overview, the author puts his findings into a three-phase restructuring agenda for top management. It includes: preparation — the need for a cogent strategic plan for both short- and long-term changes; concentration — optimizing a company's opportunities through mergers, swaps, takeovers and acquisitions; and rationalization — the often painful process of modifying existing structures in order to carry out the agenda.

To aid managers in their planning, he also stresses the need for reforms in public policy toward industry, particularly in regard to cooperative actions.

The petrochemical industry is not a unique case, but foreshadows what could be the future for many global industries. If managers can learn from their petrochemical counterparts, they can prepare themselves for that time when their own markets quake.

*WHEN MARKETS SHAKE. By Joseph L. Bower. Cloth. 6 1/2 x 9 1/2 inches. 256 pages. Harvard Business School Press, Harvard Business School, Boston, Mass. 02163. \$19.95.

Hazardous Waste

This guide* to the Resource, Conservation & Recovery Act emphasizes both the current and the future impact of the 1984 amendments to the act, which greatly expand and strengthen the national regulatory program.

The book covers the full scope of RCRA, describing and analyzing the controls hazardous waste generation, management, treatment, storage, transportation and disposal.

The authors present information on a wide variety of regulatory issues, providing answers to a number of important questions. What is hazardous waste, and which wastes are hazardous? How will the regulations affect small-quantity generators, a group previously exempt from controls? Which wastes are restricted from land disposal? What is involved in the permitting process for generators, transporters, treatment, storage and disposal facilities? What are the requirements for environmental monitoring and cleanup?

The book examines a wide range of topics from the history of the program to the requirements for leaking underground storage tanks, from understanding the maze and distinctions between waste management, waste recycling and production activities to the relationship between state and Federal RCRA programs.

Full discussions are devoted to such topics as qualifying for interim status and subject to the new requirements; public participation in the permitting process; RCRA regulations for insurance, financial responsibility, and contingency plans; and the waste subject to RCRA in the near future.

*HAZARDOUS WASTE REGULATION — THE NEW ERA: AN ANALYSIS AND GUIDE TO RCRA AND THE 1984 AMENDMENTS. By Richard C. Fortuna and David J. Lennett. Cloth. 6 x 9 inches. McGraw-Hill Book Company, 1221 Avenue of the Americas, New York, N.Y. 10020. \$59.50.

JOBS & PEOPLE



Michael R. Schimmenti, who has been named president of Griffin International Corporation. He was Griffin International from his previous position as vice-president of the solvents and gas chemical division of Exxon Chemical Americas in Houston.

Air Products Names Manager and Director

Air Products & Chemicals, Inc., has appointed Edward M. Hare manager of market research in its Chemical Group and Dr. John B. Pfeiffer director of research and development in the technical diversification department.

Mr. Hare will have responsibility for directing market studies and business analyses and will take a principal role in the chemicals group's diversification efforts.

Dr. Pfeiffer assumes responsibility for all research and development efforts within the technical diversification department. He has been with Air Products since 1976.

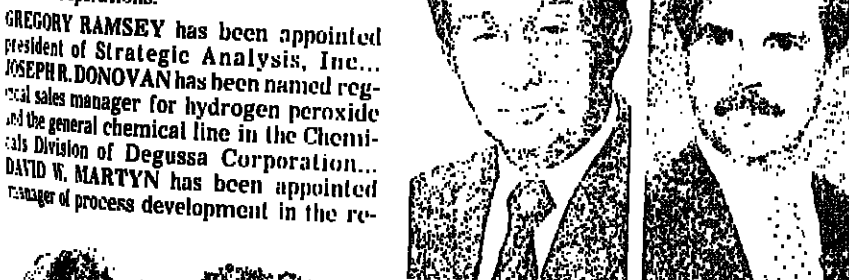


E.M. Hare

J.B. Pfeiffer

MARY LU HICKEY has been named regional sales manager in the Coatings and Additives Division for Hercules, Inc.'s Midwestern region. JANET E. MANN has been elected general manager of the chelate chemicals management unit at Akzo Chemie America. DONALD E. MCKINNEY has joined Specialty Industrial Products Inc. as director of operations.

GREGORY RAMSEY has been appointed president of Strategic Analysis, Inc. JOSEPH R. DONOVAN has been named regional sales manager for hydrogen peroxide and the general chemical line in the Chemical Division of Degussa Corporation. DAVID W. MARTYN has been appointed manager of process development in the research and development department at Horizon Chemical, a division of A.E. Staley Mfg. Co.



D.E. McKinney

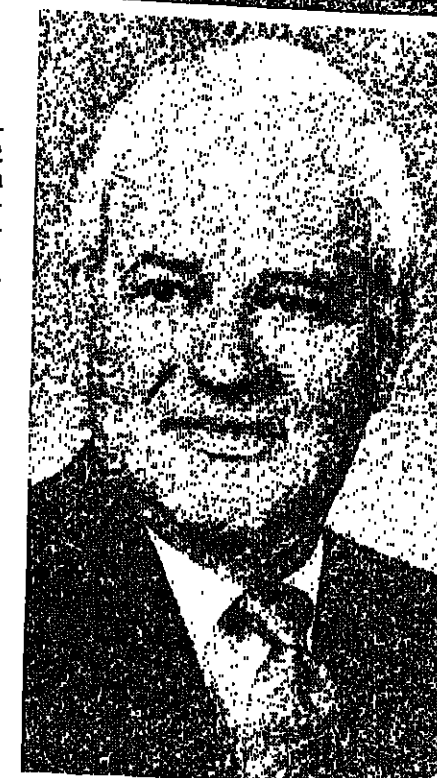
G. Ramsey

ROBERT T. SMITH has been named director of marketing for FMC Corporation's Phosphorous Chemicals Division. A. RICHARD KOETZLE has been appointed vice-president of sales and marketing at Chemical Resources, Ltd. DR. HAGEN B. SCHULTZ has been elected president of Baymug Plant, Alberta, Canada. CRAIG A. ROSENOW has been named manager of engineering in Unocal Corporation's petrochemical group. KENNETH S. WILDER has been named plant manager for the petrochemical group's Conshohocken, Pa. distribution center. DARYL W. DIERWECHTER has been named supervisor of



M.L. Hickey

J.E. Mann



Edward O. Baker, who has been appointed vice-president of marketing for Thompson-Hayward Chemical Company. He will be responsible for the company's marketing efforts in the industrial chemical, textile maintenance and pest control divisions.

environmental affairs for the petrochemical group and SERGIO O. LEONE has been appointed senior plant manager of the group's Carteret, N.J., distribution center.

R.N. WALLACE has been named district manager of the Rocky Mountain area at Betz Laboratories. BRIAN C. LIM has been appointed manager of environmental services for H.B. Fuller Company of St. Paul, Minn. D. J. BOLGER has been named vice-president of planning and supply for Mobil Chemical Company.

Monsanto Agricultural Company has appointed ROBERT L. HARNES vice-president for environmental and public affairs, ROBERT W. REYNOLDS vice-president for North America and HENDRIK A. VER-



R.T. Smith

A.R. Koetzle

Nat'l Starch Appoints Manager, Supervisor

National Starch and Chemical Corporation has named Robert L. Brooks III regional sales manager in the Industrial Starch Division and Stephen Graham account supervisor in the Adhesives Division.

Mr. Brooks will have responsibility for the South and West Coast regions. He will remain at the company's Atlanta, Ga. regional office.

Mr. Graham's territory with the Adhesives Division will include metropolitan New York and the New England states. He joined the company in 1980.



R.L. Brooks III

S. Graham

FAILLIE vice-president for commercial development.

TERRANCE R. WEAVER has been appointed business manager of light oils for



T.R. Weaver

R.C. Lim

Amoco Oil Company. RICHARD L. MCNEEL has been appointed vice-president of business ventures in the Far East for Amoco Chemicals Company. WALTER L. KREBS has been elected senior vice-president and treasurer of the DuBois Company, the corporate headquarters for Chemed Corporation's DuBois and Fabrilite businesses.

LEONARD M. LEWANDOWSKI has been appointed product manager of amino acids and new products for the Chemicals Division of Degussa Corporation and JOHN LEWISON has been appointed manager of regulatory affairs for Degussa.

MEETINGS CALENDAR

November 10, 1986

THIS WEEK

AMERICAN PETROLEUM INSTITUTE, annual meeting, Houston, Tex., Hyatt Regency, November 9-11.

DRY COLOR MANUFACTURERS ASSOCIATION, technical seminar, requirements under the Toxic Substances Control Act, Hilton Gateway Hotel, Gateway Center, Newark, N.J., November 12.

FRAGRANCE MATERIALS ASSOCIATION OF THE UNITED STATES, 10th international congress of essential oil, fragrances and flavors, Omni Shoreham Hotel, headquarters hotel, Washington, D.C., November 16-20.

K-86, 10th international trade fair for plastics and rubber, Düsseldorf, West Germany, November 6-13.

THIS MONTH

FERTILIZER ROUND TABLE, Sheraton Inner Harbor Hotel, Baltimore, Md., November 17-19.

CHEMICAL MANUFACTURERS ASSOCIATION, chemical industry conference, Palmer House Hotel, November 17-18, Chicago, Ill.

DRUG, CHEMICAL & ALLIED TRADES ASSOCIATION, Fall luncheon, Waldorf-Astoria Hotel, New York, November 18.

EUROPEAN PETROCHEMICAL ASSOCIATION, intermodal transport seminar, Frankfurt Sheraton Hotel, Frankfurt, West Germany, November 20-21.

LATIN AMERICAN PETROCHEMICAL ASSOCIATION, sixth annual meeting, Rio Palace Hotel, Rio de Janeiro, Brazil, November 23-25.

DECEMBER

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION, 73rd annual meeting, Marriott's Harbor Beach Resort, Fort Lauderdale, Fla., December 7-11.

NATIONAL ASSOCIATION OF CHEMICAL DISTRIBUTORS, 15th annual meeting, Ritz-Carlton-Naples Hotel, Naples, Fla., December 2-6.

SALES ASSOCIATION OF THE CHEMICAL INDUSTRY, annual Christmas party, New York Hilton Hotel, New York, December 16; education committee, seminar, "The Psychology of Selling," Treadway Inn, Saddle Brook, N.J., December 18.

LATER ON

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, center for chemical process safety, international conference on chemical safety issues, Omni Shoreham Hotel, Washington, D.C., February 3-5.

CHEMICAL MARKETING RESEARCH ASSOCIATION, Houston Meeting: "The US Chemical Industry Responding to Change," Westin Galleria Hotel, Houston, Tex., February 4-5, 1987.

CHLORINE INSTITUTE, Winter meeting, Mayflower Hotel, Washington, D.C., March 15-19.

DRUG, CHEMICAL & ALLIED TRADES ASSOCIATION, 61st annual dinner, Waldorf-Astoria Hotel, New York, March 19.

FERTILIZER INSTITUTE, 1987 annual meeting, Orlando World Center, Orlando, Fla., February 13.

INSTITUTE OF GAS TECHNOLOGY, 11th annual symposium on energy from biomass and wastes, New Royal Plaza, Walt Disney World Village, Buena Vista, Fla., February 2-6.

SOAP AND DETERGENT ASSOCIATION, 80th Annual Meeting and Industry Convention, Boca Raton Hotel and Club, Boca Raton, Fla., January 28-February 1, 1987.

SOCIETY OF THE PLASTICS INDUSTRY, 43rd annual conference of the reinforced plastics and composites, Cincinnati Convention & Exhibition Center, Cincinnati, Ohio, February 2-6.

THE FERTILIZER INSTITUTE, 1987 Annual Meeting, Orlando World Center, Orlando, Fla., February 13, 1987.

BUSINESS BRIEFS

BETZ PAPERCHEM INC., Jacksonville, Fla., has introduced a specially formulated type of corrosion inhibitors designed to reduce corrosion and deposition on bronze valves and bronze suction press rolls. The product contains an inhibitor that provides a protective film on the surface of the rolls in industrial pulp, paper and packaging applications, Betz says.

NEW CHEMICAL COMPANY says new research findings indicate that its "Dowanol" glycol ether acetate is an effective and non-toxic solvent substitute in acrylic polyurethane reacting at atmospheric pressure. The findings show that increasing the initial initiator produces polymers with the

desired low molecular weights and viscosity, according to Dow.

GINER INC., Waltham, Mass., says it has developed a new line of electrodes for a variety of electrochemical applications, including fuel cells, oxygen generators, electro-organic synthesis, gas sensors and alkaline metal-air batteries. The electrodes feature a choice of support materials that benefit the user by being lightweight and flexible, Giner says.

LONZA Inc. has reintroduced "Hyamine" 10-X USP in the US and abroad. The CTPA designation for the product is methyl benzethonium chloride. The crystalline quaternary ammonium salt is used primarily in

personal care applications. It was previously available from Rohm and Haas Company.

MCINTYRE CHEMICAL, Chicago, Ill., has developed a new conditioner concentrate, called "Mackade" CBC. The product is supplied in flake form. According to the company, a conditioner with either a lotion or cream consistency can be achieved at levels between 4 and 6 percent.

NATIONAL STARCH & CHEMICAL Corporation has added "Dur-O-SET" C355, a high-viscosity polyvinyl acetate emulsion, to the line of continuous process polymers manufactured by its Resins & Specialty Chemicals Division. The products are designed for adhesive manufacturing.

PETROLITE CORPORATION has introduced a multifunctional gasoline additive that provides significantly improved detergency for port-fuel-injected engines. The product, "Tolad" MFA-10, proved effective in an extended fleet test conducted by an independent testing laboratory, according to Petrolite.

WITCO CORPORATION has introduced a new water-based flame retardant designed to minimize the chance of corrosion on production equipment during usage. The "Fyrestor" flame retardant is the latest addition to Witco's line of "Pearsall" flame retardants used in latex systems for fabric and non-woven applications.

November 10, 1986

CHEMICAL MARKETING REPORTER

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John C. Ito